



BUYER'S GUIDE

Our products are proudly
manufactured in the

USA



Defrost
Controls



Thermostats



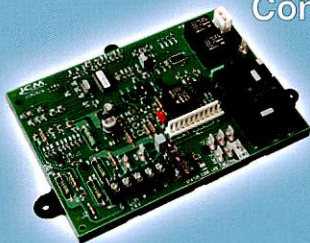
Gas Ignition
Controls



Hard
Starts



Surge
Protection



Furnace
Controls

Head Pressure
Controls



Motor
Protection
Controls



A Leading **American Manufacturer** of Heating,
Ventilation, Air Conditioning and Refrigeration Controls

For information on our complete range of American-made products –
plus wiring diagrams, troubleshooting tips and more, visit us at

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Made in USA



ICM Controls World Headquarters

It is
THE AMERICAN MADE
solution!

ICM Controls leads the HVACR industry in the manufacture of electronic controls. We have achieved this position through product and process innovation, and we strive to maintain this position through extensive capitalization, focusing on our greatest manufacturing strength: true vertical integration.

The **ICM Controls** manufacturing plant, located in North Syracuse, New York, is one of the most vertically integrated facilities in the country.

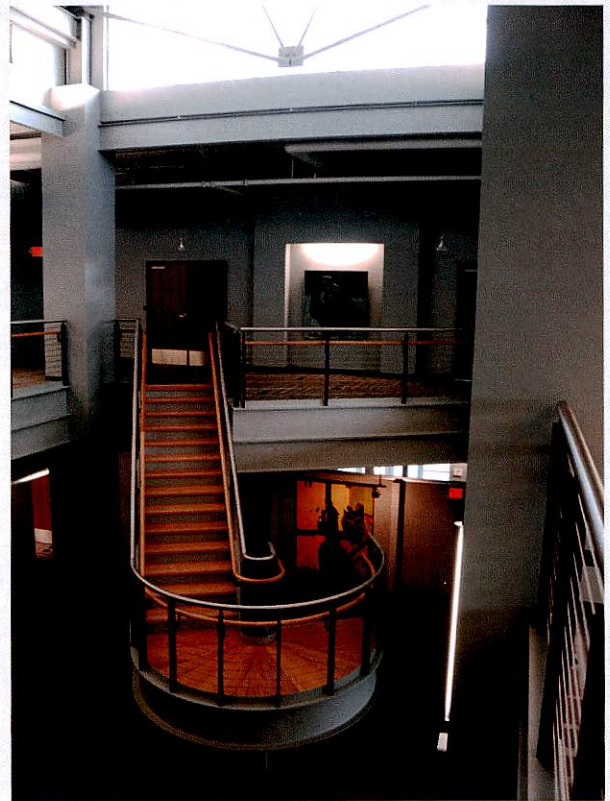
Serving both the OEM and the aftermarket, our goal has been to provide our customers with the most technologically advanced products at the greatest value – without compromise in quality. The ability to quickly take a control from concept to prototype to production has become an **ICM Controls** trademark.

We are proud to be American made. **ICM Controls** personnel are committed to your satisfaction. Please do not hesitate to call us with your questions, comments, or special control application requirements.

ICM Controls' Sales, Customer Service, and Engineering teams remain at your service.



The name to know for controls.



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Application Assistance
800.365.5525

Customer Service Fax
315.233.5282

Phone
315.233.5266



Air Handling Controller	28	Head Pressure Controls	40
Compressor Protection	17	i3 Series Touch Thermostats	44
Condensation Controls	39	Motor Protection Controls	18
Cross Reference	8	Motor Speed Controls	26
Custom Logo Program	59	Motor Starters	22
Defrost Controls	35	Oil Burner Primaries	35
Duty Cycle Timers	33	SimpleComfort® Thermostats	42
ECM Controls	27	Single Phase Voltage Monitors	20
Fan Blower Controls	29	Selling Tools and Displays.....	62
Fan Coil Relay Controls	28	Surge Protection Devices	21
Fan Safety Alarm	28	Thermostat Accessories	42
Freeze Protection	16	Timers (DOB and DOM)	12
Furnace Controls	31	Universal Motor Starting Relay	26
Gas Ignition Controls	33	World Wide Sales Reps	6

Packaging Guidelines

ICM Controls offers a variety of packaging methods to accommodate the varying needs of our customers. When a package ships, a Letter Suffix may appear at the end of the ICM p/n on the packing slip to indicate the packaging type used to complete the order. Standard default packaging consists of individual boxes, blister or clamshell containers with installation instructions. Please review the section below for additional packaging types & information.

To ensure your product ships in the packaging type you desire, please add the corresponding Letter Suffix to the end of the ICM p/n on your PO. Some products can only be shipped in specific packaging; ICM Controls reserves the right to change the packaging type requested at its discretion.

■ **No Letter Suffix** Product typically is packaged in a box. For products not ordered in proper ctn/case multiples where specified in the Pricing Schedule, the product will ship in a plain white distributor box.

■ **Suffix D** Product individually packaged in Blister Packs for point of sale merchandising in Master Carton of 25 per box.

■ **Suffix E** Product is bulk packed with partitions; no instructions included. Available on select models only. Minimum quantities may apply.

■ **Suffix V** Product is bulk packed and vacuum sealed with instructions. Available on select models only. Minimum quantities may apply.

Prop 65 Information for California Only



Please visit our web site at www.icmcontrols.com for a complete list of ICM Controls products that require a Prop 65 warning label for the State of California.

For questions, please contact **ICM Controls Customer Service** at 315-233-5266 ext. 376



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ACC-OE-03	41	ICM221	17	ICM340	39	ICM2901	34
ACH045	57	ICM222	17	ICM342	39	ICM2902	34
ACH055	57	ICM251	29	ICM345	39	ICM2904	34
ACH060	57	ICM253	29	ICM350	38	ICM2905	34
ACH065	57	ICM254	29	ICM379	41	ICM2906	34
ACH070	57	ICM255	29	ICM380	41	ICM2907	35
ACH075	57	ICM256	30	ICM400	18	ICM6100	28
ACH085	57	ICM270	30	ICM401	18	ICM6200	28
ACH55	39	ICM271	30	ICM402	18	ICM6201	28
ACS-8	15	ICM272	30	ICM408	19	ICM6202	28
ACS-11	15	ICM273	30	ICM409	19	ICM6500	28
CC750-115	26	ICM274	30	ICM431	19	MP2010L	55
CC750-230	26	ICM275	30	ICM432	19	MP2211L	55
FS40	54	ICM277	30	ICM441	20	MP4010	55
FS1500L	54	ICM278	30	ICM442	20	MP4211	55
FS1500VL	54	ICM280	31	ICM443	20	MP5010	55
i1010HR	45	ICM281	31	ICM450	18	MP5211	55
i1010R	45	ICM282A	31	ICM450S	18	SC1001	47
i1010WHR	45	ICM283	33	ICM455	18	SC1001V	47
i1010WR	45	ICM284	31	ICM461	19	SC1600L	47
i2010HR	45	ICM286	31	ICM462	19	SC1600VL	47
i2010R	45	ICM287	31	ICM491	20	SC1800L	47
i2010WHR	45	ICM288	31	ICM492	20	SC1800VL	47
i2010WR	45	ICM289	32	ICM493	20	SC1901L	48
i2020HR	45	ICM290A	34	ICM500	15	SC1901VL	48
i2020R	45	ICM291	32	ICM501	15	SC2000L	48
i2020WHR	45	ICM292	32	ICM502	15	SC2000VL	48
i2020WR	45	ICM295	34	ICM503	15	SC2001L	48
i3020R	45	ICM296	34	ICM504	15	SC2001VL	48
i3020WR	45	ICM300	35	ICM505	15	SC2010L	49
ICM100	12	ICM301	35	ICM517	21	SC2201L	49
ICM100F	12	ICM302	35	ICM550	38	SC2201VL	49
ICM101	12	ICM303	37	ICM600	41	SC2211L	49
ICM101F	12	ICM304	37	ICM602	41	SC2311L	49
ICM102	12	ICM305	33	ICM708	27	SC3000L	50
ICM102F	12	ICM306	33	ICM709	27	SC3001L	50
ICM103	12	ICM307	37	ICM711	27	SC3010L	50
ICM104	12	ICM308	16	ICM712	27	SC3211L	50
ICM105	12	ICM309	16	ICM713	27	SC4010 PRO	52
ICM150	14	ICM310	16	ICM803	22	SC4011 PRO	52
ICM151	14	ICM314	37	ICM805	22	SC4211 PRO	52
ICM175	15	ICM315	37	ICM810	22	SC4811 PRO	52
ICM200	13	ICM316	37	ICM855	24	SC4812 PRO	52
ICM200F	13	ICM317	37	ICM856	24	SC4813 PRO	52
ICM201	13	ICM318	37	ICM857	24	SC5010 PRO	53
ICM201F	13	ICM319	38	ICM858	24	SC5011 PRO	53
ICM203	13	ICM320	38	ICM859	24	SC5211 PRO	53
ICM203F	13	ICM321	38	ICM860	23	SC5811 PRO	53
ICM204	13	ICM322	38	ICM866U	23	SC5812 PRO	53
ICM205	13	ICM323	38	ICM1501	35	SC5813 PRO	53
ICM206	13	ICM324	38	ICM1502	35	SC700LV	54
ICM207	13	ICM325HN	40	ICM1503	35	SC700V	54
ICM208	13	ICM325HNV	40	ICM2801	32	SC710LV	54
ICM209	13	ICM326HN	40	ICM2804	32	SC710V	54
ICM210	14	ICM327HN	40	ICM2805A	32	SC900V	54
ICM211	14	ICM330	40	ICM2807	33	UMSR-50B	26
ICM212	14	ICM333	40	ICM2808	33		
ICM220	17	ICM334	40	ICM2810	33		



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AFTERMARKET

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OEM

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REPLACEMENT MODEL | ICM P/N

AIR HANDLER CONTROL

Vtronics: R200A | ICM6500

CONDENSATION CONTROL/ALARM

Water Guard: 401475 | ICM340

DELAY ON MAKE TIMERS

A-1: 7061	ICM103
A-1: EAC-701-ADJ	ICM102
A-1: EAC-710-180, EAC-701-180-W, EAC-700-A	ICM100
A-1: EAC-710-300, EAC-701-300-W	ICM101
Diversified: ASC-200	ICM150
Diversified: AC-800	ICM102, ICM105
Diversified: ASC-600, ASC-601	ICM105
Diversified: ASC-600-3, ASC-601-3	ICM100
Gemline: 1C213	ICM102, ICM103, ICM105
Gemline: 1C310	ICM102, ICM105
Ice-O-Matic: TD3001A	ICM103
MARS: 32019, 32391, 32367	ICM102
MARS: 32394, 32396	ICM103
MARS: 32091	ICM105
MARS: 32395	ICM175
MARS: 32377, 32397	ICM500
MARS: 32378, 32398	ICM501
MARS: 32379, 32399	ICM502
MARS: 32350	ICM500D-C-11
MARS: 32351	ICM501D-C-11
MARS: 32352	ICM502D-C-11
MARS: 32361, 32362	ICM150
Robertshaw: 3310-068	ICM103
Supco: TD32	ICM175
Supco: TD68	ICM105
Supco: TD69	ICM102
Supco: TD693 (18-30 VAC)	ICM100
Supco: TD693W (18-30 VAC)	ICM100F
Supco: TD695 (18-30 VAC)	ICM101
Supco: TD695W (18-30 VAC)	ICM101F
Supco: TD69W	ICM102F
Supco: TMF-19, TMF-80	ICM103
Wagner/DiversiTech: ADM-1	ICM102
Wagner/DiversiTech: ADM-2	ICM102F
York: 031-01204-000	ICM151

DELAY ON BREAK TIMERS

A-1: EAC-426-180	ICM204, ICM207
A-1: EAC-426-300	ICM205, ICM208
A-1: EAC-426-ADJ	ICM206, ICM209
A-1: EAC-500	ICM200F, ICM201, ICM201F
A-1: EAC-501-300-W	ICM201, ICM201F
A-1: EAC-501-180-W	ICM200
A-1: EAC-501-ADJ	ICM203
A-1: EAC650	ICM210, ICM212
Diversified: AC-100-3	ICM200, ICM204, ICM207
Diversified: AC-100-5	ICM205, ICM208
Diversified: AC-503	ICM203

REPLACEMENT MODEL | ICM P/N

DELAY ON BREAK TIMERS

Diversified: AC-505-5	ICM201F
Diversified: ASC-500-5	ICM201
MARS: 32390	ICM201
MARS: 32005, 32505	ICM201F
MARS: 32001, 32387, 32392	ICM203
MARS: 32381	ICM204, ICM207
MARS: 32382	ICM205, ICM208
MARS: 32565	ICM209
Robertshaw: 3310-072	ICM203
Robertshaw: 3310-183	ICM204, ICM207
Robertshaw: 3310-305	ICM205, ICM208
Supco: TD72, TD73	ICM203
Supco: TD733 (18-30 VAC)	ICM200
Supco: TD733W (18-30 VAC)	ICM200F
Supco: TD735 (18-30 VAC)	ICM201
Supco: TD735W (18-30 VAC)	ICM201F
Supco: TD73W	ICM203F
Supco: TD74	ICM206
Supco: TD74H	ICM209
Supco: TL243	ICM204
Supco: TL243	ICM207
Supco: TL245	ICM205, ICM208
Wagner/DiversiTech: ADB-1	ICM203
Wagner/DiversiTech: ADB-2	ICM203F

DEFROST CONTROLS

Amana: C64301-1, C64310-1	ICM300
Arcoaire: 32312-00, 3232140	ICM300
Artesian: 10321-00	ICM300
Avion: DFT100	ICM315
Carrier: CES0110063-00, -01, -02, -02A	ICM321
Carrier: CES0130024-00	ICM322
Carrier: HK25SZ359/9A	ICM320
Carrier: HK32FA006	ICM320
Carrier: HK32EA001, EA003, EA008	ICM350
Coleman: 3030A374	ICM300
Essex: 621-1 to 621-10, 621-110, 621-111, 621-310-110	ICM300
Evcon: 9218-374	ICM303
Fast: 1093410	ICM307
Goettl: 305007	ICM301
Goettl: 305023	ICM329
Goettl: 305057	ICM324
Goodman: B12260-06	ICM300
Goodman: B1226008	ICM318
Goodman: PCBDM 133 (Direct replacement)	ICM314
Grasslin: 010-0011B	ICM550
Heil Quaker: HQ1052757	ICM300
Honeywell: ST74A1004/20/38	ICM300
ICM: AG1004	ICM329
ICM: AJ1008	ICM324
ICM: DFORB24A2I300	ICM319
ICM: DFORB-AB1004	ICM302
ICM: DFORF	ICM303

REPLACEMENT MODEL	ICM P/N
DEFROST CONTROLS	
ICM: DFOSP24A2	ICM301
ICM: W1001-4	ICM318
ICP: 1052757	ICM300
ICP: 1069364	ICM304
ICP: Heat active (B) RV	ICM323
Intermatic: DTAV40	ICM550
Intertherm: 6208800	ICM300
Lennox: 33G9501	ICM300
Lennox: 86G16	ICM307
MARS: 32572	ICM300
Nordyne: 621301A, 621579B, 621579C, 917178	ICM302
Nordyne: 624519A	ICM319
Ranco: DT2	ICM307
Ranco: E-15	ICM315
Rheem: 47-21776-01	ICM300
Rheem: 47-21776-06	ICM301
Robertshaw/Uni-Line: TD-10, DT2-1000	ICM300
Snyder General: 1395-329	ICM300
Steveco: 90-621	ICM300
Therm-O-Disc: 26E-10	ICM300
Trane: 21C142827G01, CNT1152, CNT1642	ICM316
Weatherking (Addison): 840-4-5548	ICM300
White-Rodgers: 90-621	ICM300
York: 03101251000, 9218-3741	ICM303

DUTY CYCLE CONTROLS	
Carrier: HN67ZA012A	ICM305
SSAC: ESDR, TSDR Series	ICM305
SSAC: ESDR, TSDR Series	ICM306

ECM CONTROLS	
EVO/ECM: VCU-36-mp	ICM708
EVO™/ECM: 4Spd	ICM709
EVO™/ECM: ACU+-S1	ICM711
IEC: E025-71521506	ICM712
Hoffman: 880-ECM(10)SSHP	ICM713

FAN BLOWER CONTROLS	
A-1: 5893	ICM255
Bard: 8201-056	ICM255
Carrier: 302075-3, CES0110017, CES0110018,	ICM271
Carrier: CES0110019	ICM275
Carrier: HH84AA001/003/005/009/014/015/021	ICM275
Carrier: HH84AA010/011/012/013/020, P771-7002	ICM271
Carrier: HH84AA017, HH84AA018	ICM278
Carrier: HK61GA001/03	ICM272
EMI: 240000-969	ICM273
EMI: 240-1764	ICM274
Evcon: 2702-300	ICM270
Field Controls: 46144700	ICM253
Gemline: 1C216	ICM253
Goodman: B1370735S, PCBFM131S	ICM277
Goodman: PCBFM 103	ICM256
Honeywell: S876A1016	ICM254

FAN BLOWER CONTROLS	
MARS: 32377, 32378, 32379	ICM251
MARS: 32393	ICM253
MARS: 32574	ICM255
Rheem: 42-22515-01/02/03	ICM255
Rheem: 47-22827-01, 47-22827-81/82/83, 47-22828-01/02	ICM270
Robertshaw: 695-003	ICM270
Robertshaw: 695-100	ICM271
Robertshaw: 695-101	ICM275
Snyder General/ICP: 1395336	ICM255
Texas Instruments: 2FD-1	ICM272
Watco: PSTD-000-005W, PSTD-000-060W	ICM254

FAN COIL RELAY CONTROL BOARDS	
BSR/Xactone: FC/H-1, FC/H-2	ICM6201
Honeywell: W6380B	ICM6200
N/A	ICM6202

FAN SAFETY ALARM	
Functional Devices: RIBMNLB-6	ICM6100

FURNACE CONTROL BOARDS	
Carrier: 325878-751	ICM282
Carrier: CES0110057-00/01/02	ICM281
Carrier: CES0110020, CES0110048	ICM281
Carrier: CES0110074-01	ICM2804
Carrier: HK42FZ-004/007/008/009/011/013/016	ICM282A
Carrier: HK42FZ017	ICM2807
Carrier: HH84AA016	ICM281
Carrier: LH33WP003/3A	ICM291
Goodman: PCBBF112S, B1809926S	ICM286
Goodman: B18099-04	ICM287
Goodman: PCBBF136	ICM2810
Goodman: PCBBF140	ICM2810
Goodman: B18099-06/08/10/13/13S	ICM280
Lennox: All BCC1, BCC2, BCC3 circuit boards, including 48K98	ICM289
Nordyne: 624631	ICM2805A
Rheem: 62-24140-04	ICM292
Rheem: 62-24084-82	ICM288
Texas Instruments: 41F-5	ICM280
UTEC: 1012-933D	ICM280
White-Rodgers: 50T35-730, 50T35-743	ICM280
White Rodgers: 50T55-289-03	ICM2809
York: 03101280000	ICM284
York: S1-331-03010000, S1-331-02956000	ICM2808
York: 7990-319P	ICM2801

GAS IGNITION CONTROLS	
Carrier: LH33WZ510	ICM295
Carrier: LH33WZ512A	ICM296
Honeywell: S8610U (and compatible Camstat, Fenwal, HSC, Penn-Johnson, Robertshaw and White Rodgers models)	ICM290A
Honeywell: S8910U-1000	ICM283

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REPLACEMENT MODEL	ICM P/N
GAS IGNITION CONTROLS	
Johnson Controls: G770RJA-1	ICM2901
Lennox: G776 (63K2401, 41K8701, 69J3601)	ICM2902
Reznor: 257009	ICM2904
Reznor: 257010	ICM2905
Reznor: 195573	ICM2906
Reznor: 195265	ICM2907
Robertshaw: H5780	ICM283
White Rodgers: 50E47, 50F47	ICM283

HEAD PRESSURE CONTROLS	
ACT: FM2000	ICM325HN
ACT: FM4000	ICM326HN
ACT: FM4000	ICM327HN
Hoffman: 800, 800A, 800AA, 814-50, 816-10	ICM325HN, 326HN, 327HN
Johnson Controls: P66AAB/AAD	ICM330 (DIN Rail), ICM332 (For 1 temp or 1 pres input)
Johnson Controls: P66BAB/BAD	ICM333 (For 2 temp or 2 pres inputs)
Mitsubishi: MU09NW, MUH09NW, MU12NN, MU15NN, MU17NN, MUM18NW, MUM30NN, MUM30NN2	ICM326HM2
Ranco: E31	ICM325HN, 326HN, 327HN
Optional Pressure Transducer	ICM380
N/A	ICM334

IMPEDANCE/LOCKOUT RELAY	
Essex: Relay Series 84,93	ICM220

LEAD-LAG CONTROLLERS	
Regulates 1 or 2 heating/cooling systems	ICM600
Open board version of ICM600	ICM601
Open board lead-lag control	ICM602

LINE MONITORS	
A-1: EAC-401, 402, 403, 404	ICM491, ICM492, ICM493
A-1: EAC-800, EAC-8000, EAC-8002	ICM400, ICM450, ICM450S, ICM455
Bristol: 241680	ICM441
Copeland: 071-0376-01 & -02, 071-0397-00 & -01, 071-0424-00 & -01, 071-9800-01 & -02	ICM441
Copeland: 085-0160-00	ICM450, ICM450S, ICM455
Diversified: AC-2020, AC-301, AC-302	ICM400, ICM450, ICM450S, ICM455
Diversified: CV-100-RS, CV-200-RS15, CV-200-RS20	ICM491
Function of ICM400, DIN rail mount	ICM409
Function of ICM400, plug-in panel mount	ICM408
MARS: 32512, 32515, 32516, 32517	ICM400
MARS: 32536	ICM401, ICM402
MARS: 32532, 32534, 32540, 32541, 32542	ICM408
MARS: 37300, 37302, 37304, 37306, 37322	ICM441
MARS: PFM-2000	ICM450
Motorsaver: 455	ICM400, ICM450, ICM450S, ICM455
SSAC: QLM, QLV	ICM400, ICM450, ICM450S, ICM455

LINE MONITORS	
Supco: TPMP2	ICM401, ICM402
Texas Instruments: 15AA1600B, 15AA1600C, 15AA1603B, 15AA1603C, 31AA1600E, 31AA1606E	ICM441
Time Mark: 265	ICM400, ICM450, ICM450S, ICM455
Wagner/DiversiTech: DSP-1	ICM491, ICM492
Wagner/DiversiTech: DTP-3, WPC-800	ICM400, ICM450, ICM450S, ICM455
N/A	ICM442
Wagner/DiversiTech: DSP-1	ICM493

MOTOR STARTERS/RAPID START	
5-2-1: CSR-U1	ICM803, ICM866U
5-2-1: CSR-U2/U3	ICM805, ICM866U
A-1: WSX-5	ICM855
A-1: WSX-6	ICM856
Kickstart: KS1	ICM805, ICM866U
Kickstart: TO5, KS8	ICM803, ICM866U
MARS: 32701, 35701	ICM855
MARS: 32702, 35702	ICM856
MARS: 32481	ICM857
Supco: SPP-5	ICM855
Supco: SPP-5E	ICM850, ICM866U
Supco: SPP-6	ICM856
Supco: SPP-6E	ICM860, ICM866U
Supco: SPP-8, SPP-8E	ICM803, ICM866U
Supco: RCO210	ICM859
Supco: RCO410	ICM858
Supco: RCO810	ICM857
Wagner/DiversiTech: DST-5	ICM855
Wagner/DiversiTech: DST-6	ICM856

OIL BURNER PRIMARY CONTROL	
Carlin: 48245	ICM1503
Honeywell: R8184G: 4009, 1138, 1427, 4025	ICM1503
Honeywell: R8184G: 4066, 1161, 1294	ICM1501
Honeywell: R8184G: 4074, 1179, 1302, 4033	ICM1502
White-Rodgers: 668-401	ICM1503

SINGLE PHASE SURGE PROTECTION	
Intermatic: AG3000	ICM517
Supco: SCMPlus, SCM150	ICM517

UNIVERSAL MOTOR STARTING RELAYS	
Supco: SUPR, APR5	UMSR-30, UMSR50

REPLACEMENT MODEL	ICM P/N
i3™ SERIES TOUCH THERMOSTATS	
Honeywell: TH8580WF	I2010WR
Honeywell: VisionPro Wi-Fi	I3020WR
Honeywell: VisionPro RedLINK	I2020HR (2-stage heat/cool)
Honeywell: TH9580WF, Wi-Fi 9000	I3020WR
Honeywell: TH8110U	I1010R
Honeywell: TH8320U	I3020R
Honeywell: TH8321U	I2020HR (2-stage heat/cool)
PRO1: T955WH	I2020WHR
PRO1: T955, T925	I3020R
PRO1: T905	I1010R
PRO1: T915	I2020R
White-Rodgers: 1F97-1277	I1010R
White-Rodgers: 1F95-1277	I3020R
White-Rodgers: 1F95-129	I2020HR (2-stage heat/cool)

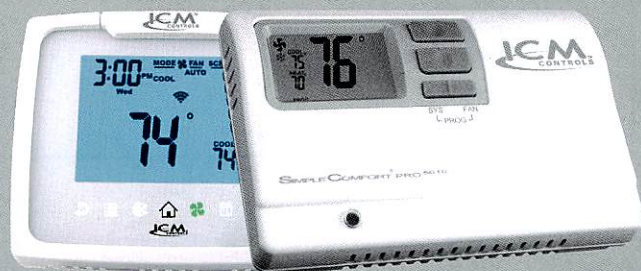
7-DAY PROGRAMMABLE THERMOSTATS	
Honeywell: T8011R Series	SC3211L
Honeywell: T8112D, T8000C, T8600D Series	SC3000L
Honeywell: TH6110D1005, TH6110D1021	SC5010
Honeywell: TH6220D1002, TH6220D1028	SC5811 (hardwired only)
Honeywell: TH6320U1000, TH8320U1008	SC5813 (hardwired only)
Honeywell: T8600D2028, TH4110D1007, TH2110D1099	SC3010L, SC5010
Honeywell: TH4210D1005, TH2110D1007	SC3211L (hardwired only)
Robertshaw: 300-227	SC5812, SC5813
Robertshaw: 300-229, 9615	SC5811
Robertshaw: 8600-1, 9600, 9610, RS3110	SC3000L, SC3010L
Robertshaw: 8601-1	SC3001L
Robertshaw: 8625-1	SC3211L (HP only), SC5811
Robertshaw: RS5110, RS6110	SC5010
White-Rodgers: 1F78-151	SC3000L
White-Rodgers: 1F80-361, 1F80-0261, 1F87-361	SC3010L
White-Rodgers: 1F80-0471, 1F80-0671, 1F97-1277	SC5010
White-Rodgers: 1F72-151, 1F82-261, 1F82-0261	SC3211L
White-Rodgers: 1F81-261, 1F85-0422	SC5811
White-Rodgers: 1F85-275, 1F85-277, 1F85-0471	SC5813 (w/2-stage HP only)
White-Rodgers: 1F93-380, 1F95-1277	SC5812 (HW only; w/2-stage HP only)

REPLACEMENT MODEL	ICM P/N
TEMPORARY THERMOSTATS	
Jackson Systems: CL-45, CL-55, CL-75 (cool)	ACH0: 45, 55, 75
Jackson Systems: TS-60, TS-65 & TS-70 (heat)	ACH0: 60, 65, 70

NON-PROGRAMMABLE THERMOSTATS	
Honeywell: Mechanical T810C, T822C	SC1901L, SC1901VL
Honeywell: T8034N, T834N, T822K Series	SC1001, SC1001V
Honeywell: T8400, T8401 Series	SC2000L, SC2000VL, SC2001L, SC2001VL, SC2010L
Honeywell: T8411R	SC2211L
Honeywell: T8411R, T8511G	SC2201L, SC2201VL
Honeywell: T8775A1009	SC1600L, SC1600VL, SC1800L, SC1800VL
Honeywell: T8775C1005	SC2001L, SC2001VL
Honeywell: T87F-3467, T87N1000, T87N1026	SC1001, SC1001V
Honeywell: TH1100D1001	SC1600L, SC1600VL (battery only)
Honeywell: TH1110D1000, TH3110D1008	SC2010L
Honeywell: TH1210D1008, TH3210D1004	SC2201L, SC2201VL (HW only)
Honeywell: TH5110D1006, TH5110D1022	SC4010
Honeywell: TH5220D1003, TH5220D1029	SC4811 (hardwired only)
Honeywell: TH5320U1001	SC4812
Robertshaw: 900 Series, 9200	SC1001, SC1001V
Robertshaw: 300-201	SC4010, SC4011
Robertshaw: 300-202	SC4812, SC4813
Robertshaw: 300-203	SC4811
Robertshaw: 300-208	SC4211
Robertshaw: 300-206	SC2000L, SC2000VL, SC2001L, SC2001VL, SC2010L
Robertshaw: 300-207	SC2201L, SC2201VL
Robertshaw: 300-204	SC1600L, SC1600VL, SC1800L, SC1800VL
Robertshaw: 300-205, 8406-1	SC1901L, SC1901VL
Robertshaw: 8400-1, 9400, 9500, RS2110	SC2000L, SC2000VL, SC2010L
Robertshaw: 8401-1, 9401	SC2001L, SC2001VL
Robertshaw: 8405-1, 9405, 9505	SC1800L, SC1800VL
Robertshaw: 8425-1, 9420, 9520	SC2211L
Robertshaw: 9415, 9555	SC4811
Robertshaw: 9550	SC4010, SC4011
Robertshaw: 9560	SC4211
Robertshaw: RS2210	SC2311L
Robertshaw: RS4110	SC4010
White-Rodgers: 1E56, 1F56 Series	SC1001, SC1001V
White-Rodgers: 1E78-140 Vertical	SC1600VL, SC1800VL
White-Rodgers: 1F78-144	SC2000L, SC2000VL
White-Rodgers: 1F86-344, 1F86-0244	SC2010L
White-Rodgers: 1F86-0471	SC4010
White-Rodgers: 1F79-111, 1F89-211	SC2201L, SC2201VL, SC2211L
White-Rodgers: 1F83-261	SC4811
White-Rodgers: 1F83-277, 1F83-0422, 1F83-0471	SC4813 (w/2-Stage HP only)
White-Rodgers: Mechanical 1F30-321, 1C20-102	SC1600L, SC1600VL
White-Rodgers: Mechanical 1F51-609	SC1901L, SC1901VL

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ICM Control	Features and Applications	Specifications	Replaces
ICM100, ICM101F, ICM101 • Higher 1.5 amp power rating • Ideal for compressor staging/delaying the startup of motors and other devices • Works with anticipator-type thermostats • Simple 2-wire hookup • ICM100, 100F: 3-minute delay • ICM101, 101F: 5-minute delay • "F" suffix denotes 5" wire leads		ICM100F • Voltage: 18-30 VAC • Fixed delays: 3 or 5 minutes • Frequency: 50/60 Hz • 40 mA holding current • 15 amp inrush • 1.5 amps • Voltage drop: 2.5 V @ 1.5 amps • Dimensions: 2" x 2" ICM101 • Voltage: 18-30 VAC • Supco: TD695 (18-30 VAC) • A-1: EAC-710-300, EAC-701-300-W • Supco: TD695 (18-30 VAC) ICM101F • Voltage: 18-30 VAC • Supco: TD695W (18-30 VAC)	ICM100 • A-1: EAC-710-180, EAC-701-180-W, EAC-700-A • Diversified: ASC-600-3, ASC-601-3 • Supco: TD693 (18-30 VAC) ICM100F • Supco: TD693W (18-30 VAC) ICM101 • A-1: EAC-710-300, EAC-701-300-W • Supco: TD695 (18-30 VAC) ICM101F • Supco: TD695W (18-30 VAC)
ICM102, ICM102F • Universal voltage operation • Higher 1.5 amp power rating • Knob-adjustable time delays • Works with anticipator-type thermostats • One model replaces many in field • Ideal for compressor staging • Simple 2-wire hookup • "F" suffix denotes 5" wire leads		ICM102F • Voltage: 18-240 VAC • 1.5 amps • 15 amp inrush • 40 mA holding current • Frequency: 50/60 Hz • Adjustable delay: .03-10 minutes • Voltage drop: 2.5 V @ 1.5 amps • Dimensions: 2" x 2" ICM102 • A-1: EAC-701-ADJ • Diversified: AC-800 • Gemline: 1C310, 1C213 • Mars: 32019, 32391, 32367 • Supco: TD69 • Wagner/DiversiTech: ADM-1 ICM102F • Supco: TD69W • Wagner/DiversiTech: ADM-2	ICM103 • A-1: 7061 • Gemline: 1C213 • Ice-O-Matic: TD3001A • Mars: 32394, 32396 • Robertshaw: 3310-068 • Supco: TMF-19, TMF-80
ICM104 • Highly precise digital circuitry • High power, SPDT relay output • Input to output isolation • Works with anticipator-type thermostats • Repeat accuracy .5% over voltage and temperature range • Rugged, compact package		ICM104 • Voltage: 18-30 VAC • Frequency: 50/60 Hz • Output: N.O.: 20 amps @ 240 VAC • N.C.: 10 amps @ 240 VAC • Form: SPDT, 1 form C • Knob-adjustable time delay: 10-1,000 seconds • Dimensions: 2" x 3" Mars: 32394/32398	
ICM105 • Low hold current • Low cost version of the ICM102 without the cooling anticipator circuitry • Ideal for compressor staging • Universal voltage operation • Knob-adjustable time delays • Simple 2-wire hookup		ICM105 • Voltage: 18-240 VAC • 1.5 amps • 10 mA holding current • Frequency: 50/60 Hz • Adjustable delay: .03-10 minutes • Voltage drop: 2.5 V @ 1 amp • Dimensions: 2" x 2" Diversified: AC-800, ASC-600/601 Gemline: 1C310/1C213 Mars: 32091 Supco: TD68	

Delay on Make Timers • Ideal for Compressor Staging

APPLICATIONS

Ideal for compressor staging and stagger starting multiple motors and other equipment. Helps to reduce power surges.

MODE OF OPERATION

When power is applied to the input, the time delay begins. After the time delay is complete, the load energizes.

TIMING DIAGRAM

The diagram shows two horizontal axes labeled 'Time'. The top axis represents 'Input Voltage', which starts at 0V and rises to a constant level. The bottom axis represents 'Load Voltage', which remains at 0V for a period labeled 'Time Delay' after the input voltage rises, then jumps to a constant level labeled 'Load Energized'.

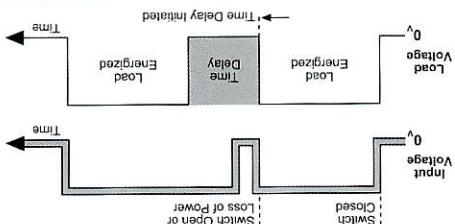
Delay on Break Timers (Anti-Short Cycle Protection)

APPLICATIONS

"Anti-short cycle" "ON delay on break"
Helps to protect air conditioning, refrigeration and heat pump equipment from damage which may be caused by the rapid short cycling of compressors.

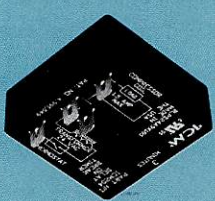
MODE OF OPERATION

Upon application of power, the load is energized. When the thermostat or other switch opens or there is a loss of power, the load is de-energized and the delay period begins. The compressor will not start again during the delay period. Restart occurs after the delay period has elapsed.



TIMING DIAGRAM

Delay on Break Timers

ICM Control	Features and Applications	Specifications	Replaces
	- Higher 1.5 amp power rating - Compressor lockout/anti-short cycle timer - Helps to protect compressors from damage caused by rapid short cycling - Simple, 2-wire hookup - Series: ICM200, 200F: 3-minute delay - ICM201, 201F: 5-minute delay "F" suffix denotes 6" wire leads	- Voltage: 18-30 VAC 1.5 amps 15 amp inrush - Frequency: 50/60 Hz - Fixed time delays: 3 or 5-minutes - Voltage drop: 3.5 V typical 4.5 V maximum @ 1.5 amps - Holding current minimum: 40 mA - Dimensions: 2" x 2"	- ICM200 - A-1: EAC-501-180-W - Diversified: AC-100-3 - Supco: TD733 (18-30 VAC) - ICM200F - A-1: EAC-500 - Supco: TD733W (18-30 VAC) - Diversified: ASC-500-5 - Mars: 32390 - ICM201 - A-1: EAC-500, EAC-501-300-W - Diversified: ASC-500-5 - Mars: 32390 - Supco: TD735 (18-30 VAC) - ICM201F - A-1: EAC-500, EAC-501-300-W - Diversified: AC-505-5 - Mars: 32005, 32505 - Supco: TD735W (18-30 VAC)
	- Universal voltage operation - Higher 1.5 amp power rating - Compressor lockout/anti-short cycle timer - Helps to protect compressors from damage caused by rapid short cycling - Simple, 2-wire hookup "F" suffix denotes 6" wire leads	- Voltage: 18-240 VAC 1.5 amps 15 amp inrush - Frequency: 50/60 Hz - Knob-adjustable delays: .03-10 mins. (1.8-600 sec.) - Voltage drop: 3.5 V typical 4.5 V maximum @ 1.5 amps - Holding current minimum: 40 mA - Dimensions: 2" x 2"	- ICM203 - A-1: EAC-501-ADJ - Diversified: AC-503 - Mars: 32001, 32387, 32392 - Supco: TD72, TD73 - Wagner/DiversiTech: ADB-1 - ICM203F - Supco: TD73W - Wagner/DiversiTech: ADB-2
	- Brownout protection - UL 873 recognition as compressor controller - Helps prevent scroll compressor reversal - Fast response time: 16 ms - Compressor lockout/anti-short cycle timer - Prevents low voltage starts - Eliminates relay chatter due to thermostat bounce or tampering - Works with anticipator-type thermostats - Patented: U.S. Patent No. 4,991,049 - Series: ICM204: 3-minute delay - ICM205: 5-minute delay - ICM206: 3-10 minute delay	- Voltage: 18-30 VAC 1.5 amps 15 amp inrush - Frequency: 50/60 Hz - Time delays: 3 or 5-minute fixed or 3 to 10-minute adjustable time delay - Holding current minimum: 40 mA - Dimensions: 2" x 2"	- ICM204 - A-1: EAC-426-180 - Diversified: AC-100-3 - Mars: 32381 - Robertsshaw: 3310-183 - Supco: TL243 - ICM205 - A-1: EAC-426-300 - Diversified: AC-100-5 - Mars: 32382 - Robertsshaw: 3310-305 - Supco: TL245 - ICM206 - A-1: EAC-426-ADJ - Supco: TD74
	- Universal voltage operation - Helps prevent scroll compressor reversal - Fast response time: 16 ms - Compressor lockout/anti-short cycle timer - Eliminates relay chatter due to thermostat bounce or tampering - Works with anticipator-type thermostats - Series: ICM207B: 3-minute delay - ICM208B: 5-minute delay - ICM209B: .03-10 minute delay	- Voltage: 18-240 VAC 1 amp 10 amp inrush - Frequency: 50/60 Hz - Adjustable time delays: 3 or 5-minute fixed or 10-minute adjustable time delay - Holding current minimum: 40 mA - Dimensions: 2" x 2"	- ICM207 - A-1: EAC-426-180 - Diversified: AC-100-3 - Mars: 32381 - Robertsshaw: 3310-183 - Supco: TL243 - ICM208 - A-1: EAC-426-300 - Diversified: AC-100-5 - Mars: 32382 - Robertsshaw: 3310-305 - Supco: TL245 - ICM209 - A-1: EAC-426-ADJ - Mars: 32565 - Supco: TD74H

Delay on Break Timers

ICM Control	Features and Applications	Specifications	Replaces
	ICM210, ICM212 - UL 873 recognition as compressor controller - Compressor lockout/anti-short cycle timer plus random start function - Dual function delay on make/break - Random start delay is ideal for stagger-starting multiple units - Low cost, open board package - Conformally coated for added protection - Order ICM212 for plastic standoffs	Voltage: 18-30 VAC 1 amp 10 amp inrush Frequency: 50/60 Hz Random start time: up to 3 seconds ASC time delay: 5-minute fixed Voltage drop: 2.5 V @ 1 amp Dimensions: 2" x 2"	A-1: EAC 650
	ICM211 - UL 873 recognition as compressor controller - Compressor lockout/anti-short cycle timer - Low cost, open board package - Conformally coated for added protection	Voltage: 18-30 VAC 1 amp 10 amp inrush Frequency: 50/60 Hz ASC time delay: 5-minute fixed Voltage drop: 2.5 V @ 1 amp Dimensions: 2" x 2"	Same as ICM210 without random start time

Random Start Timers

APPLICATIONS

"Delay on make/delay on break"

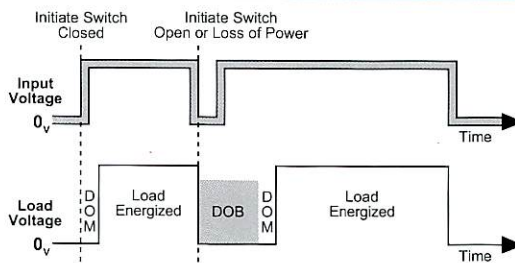
Ideal for use in compressor staging and to stagger-start multiple rooftop units. Helps to reduce power surges. No need to wait for the 5-minute delay typical of delay on make timers.

MODE OF OPERATION

Upon application of power, the delay on make period begins. Once the delay is complete, the unit energizes. Upon opening of thermostat or loss of power, the load is de-energized and the anti-short cycle period begins. The compressor will not start again during the delay period.

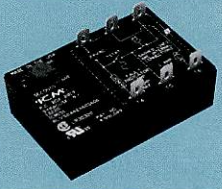
Safety Switch (ICM151): Upon interruption of power to the compressor via the pressure/limit switch(es), the compressor will be locked out until the lockout delay expires and the control is reset by cycling the thermostat OFF then ON, with the pressure/limit switch(es) closed.

TIMING DIAGRAM



* Delay on make time is proportional to selected delay on break time.

Ideal for Stagger Starting

ICM Control	Features and Applications	Specifications	Replaces
	ICM150 - UL 873 recognition as compressor controller - Compressor lockout/anti-short cycle timer - Integral random start capability - Random start delay is ideal for stagger-starting multiple units - Reduces nuisance lockouts/service calls	Voltage: 18-30 VAC 1 amp 10 amp inrush 40 mA holding current Form: SPST, N.O. Time delay: 6-600 seconds knob-adjustable - Voltage drop 1.5 V @ 1 amps Dimensions: 2" x 2"	Diversified: ASC-200 Mars: 32361, 32362
	ICM151 - UL 873 recognition as compressor controller - Compressor lockout/anti-short cycle timer with random start feature plus: - Safety switch lockout - Remote thermostat reset - Reduces nuisance lockouts/service calls	Voltage: 18-30 VAC 1 amp 10 amp inrush 40 mA holding current Time delay: 1-600 seconds knob-adjustable Dimensions: 2" x 3"	York: 031-01204-000

Bypass Timers

APPLICATIONS

"ON delay interval timer," "Normally closed delay on make"

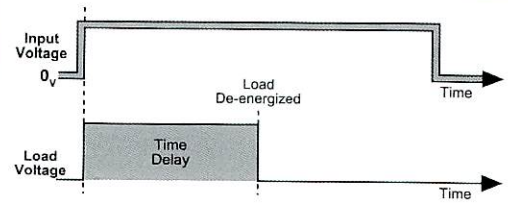
Designed to bypass a control or device during startup. Typically used to bypass a low pressure switch during compressor heat pump startup or to bypass an oil pressure switch upon startup. Helps to eliminate nuisance lockouts.

MODE OF OPERATION

With power applied to the input, the load energizes immediately and remains energized for the length of the time delay, regardless of the state of the switch being bypassed.

At the end of the time delay, the condition of the load is determined by the state of the switch.

TIMING DIAGRAM



To Bypass a Switch or Device During Startup

ICM Control	Features and Applications	Specifications	Replaces
	ICM175 - Designed to bypass a low pressure switch or other device during startup - Ideal for low ambient startups - Key component for "winter start" kits - Helps to reduce nuisance lockouts - Universal AC voltage operation - Knob-adjustable time delay - Epoxy-encapsulated circuitry	Voltage: 18-240 VAC 1 amp maximum 10 amp inrush 40 mA minimum Frequency: 50/60 Hz Knob-adjustable time delay: 10-1,000 seconds Dimensions: 2" x 2"	Mars: 32395 Supco: TD32

Multimode Digital Timers • Versatile, Simple, Accurate

ICM Control	Features and Applications	Specifications	Replaces
	ICM500, ICM501, ICM502, ICM503, ICM504, ICM505 - Multi-mode, selectable time delay ranges - Crystal timing accuracy, microprocessor controlled 4 single and two dual timing modes - DOM, DOB, interval, single shot - DOM/DOB and repeat cycle - Easy to select, switch-settable delays - Bright LEDs indicate input and output - Switch-settable time delays: 1 to 1,023 seconds or minutes in multiples of 0.1, 1, 10, 100 75 millisecond reset time during and after timing; May be reset during the time delay period without false output 8-pin base standard models. Add suffix D for 11-pin models 8-pin is for single pole; 11-pin is for double pole - Base sold separately	Voltage: 24, 115 or 240 VAC 12, 24 or 110 VDC Frequency: 50/60 Hz Power consumption: 2 watts maximum Output: 8-pin = SPDT 11-pin = DPDT Relay: 10 amps resistive at 240 VAC 1/6 HP @ 115 VAC 1/3 HP @ 240 VAC Dimensions: 4" x 2.5" x 1.75"	Mars: 32350, 32351, 32352
	ACS-8, ACS-11 Relay Sockets - Relay socket 8-pin octal plug-in base - Locating key ensures proper orientation - Order ACS-11 for 11-pin base - For use with ICM408, ICM410-427, ICM431, ICM432 and ICM500-505	10 amps up to 480 VAC	Diversified: RB-08

Series 500 Ordering Information

ICM Series	Input Voltage	Output Type	Description
ICM500	24 VAC	Single pole, 1 FORM C 8-pin	Control operating modes: • DOM, DOB, interval, single shot, DOM/DOB and repeat cycle Time delay adjustment: • Switch-settable delays from 1-1,023 seconds/minutes in multiples of .1, 1, 10 and 100 Plug-in bases are to be ordered separately • Specify 8-pin or 11-pin* 8-pin = ACS-8 11-pin = ACS-11
ICM501	115 VAC		
ICM502	240 VAC		
ICM503	12 VDC		
ICM504	24 VDC		
ICM505	110 VDC		

*Note: For 11-pin base model, double pole, 2 FORM C- add suffix D Example: ICM501D = 115 VAC, 11 pin

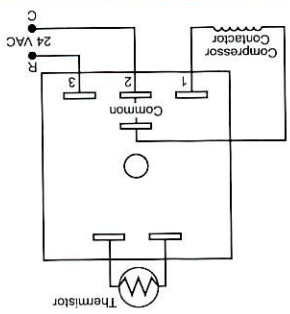
Freeze Protection Modules

APPLICATIONS

The ICM308/309/310 are low cost, fixed, single setpoint temperature controls that provide freeze protection.

ORDERING INFORMATION

Part #	Temperature Cut out (OFF)	Temperature Cut-in (ON)
ICM308	43°F	45°F
ICM309	28°F	55°F
ICM310	44°F	48°F



WIRING DIAGRAM

ICM Control



- Low cost, fixed, single setpoint temperature controls that provide freeze protection
- Small compact package
- Epoxy encapsulated for moisture protection
- Temperature sensor included

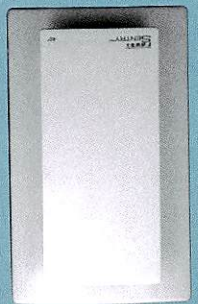
Features and Applications

- Input: 18-30 VAC
- Voltage: 50/60 Hz
- Output: Solid state (triac)
- Dimensions: 2" X 2" X 1 1/4"

Specifications

Replaces

ICM Control



- FS40 Frost Sentry™
- Easy 2-wire installation
- Fixed setpoint at 40°F
- Special foam backing improves accuracy; helps eliminate "wall effect"
- Compatible with most standard electric heating units
- Ideal for storage areas, garages, workshops and crawl spaces

Features and Applications

- Input: 18-30 VAC
- Output: 2 amp maximum
- Temp. control range: 40°F (±5°F)

Specifications

Replaces

Fixed Setpoint Thermostat

Compressor Protection Module

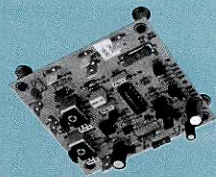
APPLICATION

The ICM221 is a low cost compressor protection module that monitors safety switch inputs and provides anti-short cycle protection.

MODE OF OPERATION

Upon a Y call from the thermostat, the compressor contactor is energized (T) after the selected delay on make time, given all safety switches are closed and the unit is not in the anti-short cycle period. If a safety switch opens for longer than the 1-second interrogation, the compressor contactor is de-energized and the selected anti-short cycle time begins. If three consecutive safety faults occur in a 90-minute period, the control will lock the compressor out and energize the alarm terminal (X). A lockout condition can only be reset by a loss of the Y signal from the thermostat. Custom controls available. Consult factory for low pressure switch bypass, status LED and other custom options.

ICM Control



Features and Applications

- Low cost compressor protection module
- Anti-short cycle/lockout control
- Safety switch monitoring (1-second interrogation)
- Alarm output during lockout
- 5-minute or 10-second ASC
- 3- or 6-second DOM
- Conformal coating for moisture protection

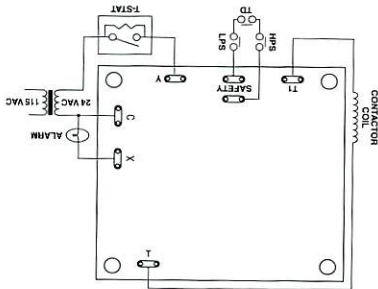
Specifications

- Voltage: 18-30 VAC
- Frequency: 50/60 Hz
- Solid state (Triac)
- 1 amp @ 30 VAC
- Dimensions: 3.25" x 3" x 1"
- Delay on make time: 3- or 6-seconds (selectable)
- Anti-short cycle time: 10-seconds or 5-minutes (selectable)

Replaces

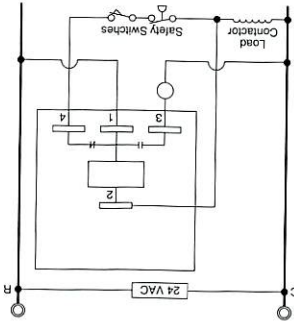
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TIMING DIAGRAM

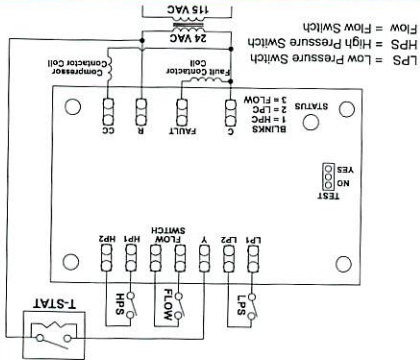


APPLICATION

ICM offers low cost lockout protection modules that monitor various switch inputs to help protect your compressor.



WIRING DIAGRAM - ICM220



WIRING DIAGRAM - ICM222

ICM Control



Features and Applications

- UL 873 recognition as compressor controller
- Low cost lockout relay
- Helps eliminate nuisance lockouts typical of Series 84 and 93 relays
- Ideal for use with safety/interlock switches
- Replaces impedance relay Series 84 and 93

Specifications

- Voltage: 18-30 VAC
- Frequency: 50/60 Hz
- Power consumption: 2 watts maximum @ lockout
- Relay: 1 form C
- Contacts: 2 amps @ 30 VAC
- Dimensions: 2" x 2" resistive

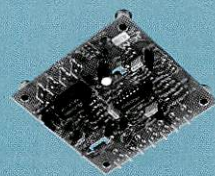
Replaces

Essex:

Series 84 and 93 Impedance Relays

ICM222

- Low cost lockout protection module
- Anti-short cycle/lockout control
- Pressure/flow switch monitoring
- Alarm output during lockout
- 5-minute ASC delay (5-second test mode)
- LED fault codes for lockout status
- Test mode for reduced test time
- Conformal coating for moisture protection



All features and specifications subject to change without notice.

Application Assistance
800.365.5525

Customer Service Fax
315.233.5282

Phone
315.233.5266

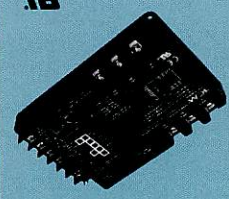
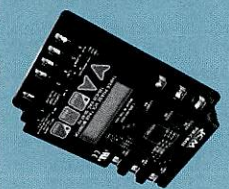
ICM
CONTROLS

Visit www.icmcontrols.com to find all our latest products, sell sheets and wiring diagrams

ICM's line voltage monitors continuously monitor incoming line voltage to provide superior motor protection from premature failure and damage due to voltage unbalance, high and low voltages, phase reversal, faulty power, incorrect sequencing and/or rapid short cycling. Some models include LED indicators or LCD diagnostic displays to indicate the current system condition. Single phase surge protectors help protect your system against lightning, power surges and voltage surges.

3-PHASE LINE VOLTAGE MONITORS • Full Performance

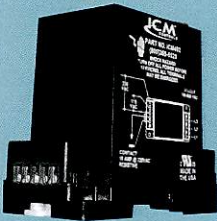
ICM's full performance line voltage monitors offer complete system protection by monitoring both the line (front) and load (back) side of the system including the power, motor and contactor lines. In addition, an integral "delay on break timer" guards against rapid short cycling at both the control circuit and the 3-phase lines. Provides highly reliable protection for your valuable equipment.

ICM Control	Features and Applications	Specifications	Replaces
 ICM400 - Low cost, full performance version featuring bright LED indicators to display system faults - Monitors "front" and "back" sides of system - Universal voltage operation: 190-600 VAC - Knob-adjustable features and system set points - Reset mode: choice of auto or manual (lockout) - Built-in anti-short cycle protection - Protects against voltage unbalance, high/low voltage, phase loss, reversal, faulty power, incorrect sequencing and rapid short cycling	- For open-board model order ICM403 - Patented: U.S. Patent No. 5,337,206 - Epoxy coated for added protection - Highly reliable passive electronics - Universal 3-phase input: 190-600 VAC - Bright LED indicators for ON and FAULT - Function of input voltage - Monitors for phase reversal, phase loss, unbalance % as a - Low cost 3-phase protection for single side	- Voltage: 190-600 VAC - Frequency: 50/60 Hz - Voltage unbalance: Adjustable: 2-25% - Control: 18-240 VAC - Delay on break timer: 1-5 minutes - Output: SPDT - N.O.: 10 amps - N.C.: 6 amps - Dimensions: 6.5" x 4.25" x 1.5"	- A-1: EAC-800, EAC-8000, - EAC-8002 - Diversified: AC-2020, - AC-301, AC 302 - Mars: 32512, 32515, 32516, 32517 - Motorsaver: 455 - SSAC: QLM/QLV - Time Mark: 265 - Wagner/DiversiTech: - DTP-3, WPC-800
 ICM450 (ICM450S for Spanish) - Fully programmable with LCD diagnostic display - Easy to configure - simple push button setup - Set points, variables and features are fully adjustable and may be defined by the user while in control - Non-volatile 25-fault memory storage - Independent high and low voltage settings ideal for dual voltage compressor applications - Identifies front and back side faults - Reset mode: choice of auto or manual - Protects against: voltage unbalance, high/low voltage, phase loss, phase reversal, faulty power, incorrect sequencing and rapid short cycling - Reliable, high temperature LCD to 167°F - Simultaneous voltage display, no scrolling - Line voltage programmable - Universal voltage operation: 190-630 VAC	- For open-board model order ICM453 - Patented: U.S. Patent No. 5,337,206 - Epoxy coated for added protection - Highly reliable passive electronics - Universal 3-phase input: 190-600 VAC - Bright LED indicators for ON and FAULT - Function of input voltage - Monitors for phase reversal, phase loss, unbalance % as a - Low cost 3-phase protection for single side	- Voltage: 190-630 VAC - Frequency: 50/60 Hz - Voltage unbalance: Adjustable: 2-25% (optional) - Control voltage: 18-240 VAC - Delay on break timer: 0-10 minutes - Output: SPDT - N.O.: 10 amps - N.C.: 6 amps - Dimensions: 6.5" x 4.25" x 1.5"	- A-1: EAC-800, EAC-8000, - EAC-8002 - Diversified: AC-2020, - AC-301, AC 302 - Mars: PFM-2000 - Motorsaver: 455 - SSAC: QLM, QLV - Time Mark: 265 - Wagner/DiversiTech: - DTP-3, WPC-800
 ICM455 - Fully programmable with LED backlit diagnostic display - Simple 7-step push-button setup - Monitors "front" and "back" sides of system - Universal voltage operation: 190-600 VAC 50+ fault memory and storage with real-time clock for accurate fault timestamps - Backup supply reliably records brownout conditions for up to 4 hours - Built-in anti-short cycle protection - Protects against voltage unbalance, high/low voltage, phase loss, reversal, faulty power, incorrect sequencing and rapid short cycling	- For open-board model order ICM453 - Patented: U.S. Patent No. 5,337,206 - Epoxy coated for added protection - Highly reliable passive electronics - Universal 3-phase input: 190-600 VAC - Bright LED indicators for ON and FAULT - Function of input voltage - Monitors for phase reversal, phase loss, unbalance % as a - Low cost 3-phase protection for single side	- Voltage: 190-600 VAC - Frequency: 50/60 Hz - Voltage unbalance: Adjustable: 2-20% - Fault interrogation: Adjustable: 0-15 sec. - Over/under voltage: Adjustable: 2-25% - Reset modes: AUTO or 0-10 retries - Control mode: ON or OFF - Control: 18-240 VAC - Delay on break timer: 0-10 minutes - Output: SPDT - N.O.: 10 amps - N.C.: 6 amps - Dimensions: 5.5" x 4.5" x 1.5"	- A-1: EAC-800, EAC-8000, - EAC-8002 - Copeland: 085-0160-00 - Diversified: AC-2020, - AC-301, AC 302 - Mars: PFM-2000 - Motorsaver: 455 - SSAC: QLM/QLV - Time Mark: 265 - Wagner/DiversiTech: - DTP-3, WPC-800

ICM Control	Features and Applications	Specifications	Replaces
 ICM401 - Low cost 3-phase protection for single side - Monitors for phase reversal, phase loss, unbalance % as a - Function of input voltage - Bright LED indicators for ON and FAULT - Universal 3-phase input: 190-600 VAC - Highly reliable passive electronics - Epoxy coated for added protection - Patented: U.S. Patent No. 5,337,206 - For open-board model order ICM403	- For open-board model order ICM404 - Patented: U.S. Patent No. 5,337,206 - Epoxy coated for added protection - Highly reliable passive electronics - Universal 3-phase input: 190-600 VAC - Bright LED indicators for ON and FAULT - Function of input voltage - Monitors for phase reversal, phase loss, unbalance % as a - Low cost 3-phase protection for single side	- Voltage: 190-600 VAC - Frequency: 50/60 Hz - Control: 18-30 VAC - Output: SPST - N.O.: 10 amps - Dimensions: 3.25" x 3" x 1.25"	- Mars: 32536 - Supco: TFM-2
 ICM402 - Low cost 3-phase protection for single side - Monitors for phase reversal, phase loss, unbalance % as a - Function of input voltage - Bright LED indicators for ON and FAULT - Universal 3-phase input: 190-600 VAC - Highly reliable passive electronics - Epoxy coated for added protection - Patented: U.S. Patent No. 5,337,206 - For open-board model order ICM404	- For open-board model order ICM404 - Patented: U.S. Patent No. 5,337,206 - Epoxy coated for added protection - Highly reliable passive electronics - Universal 3-phase input: 190-600 VAC - Bright LED indicators for ON and FAULT - Function of input voltage - Monitors for phase reversal, phase loss, unbalance % as a - Low cost 3-phase protection for single side	- Voltage: 190-600 VAC - Frequency: 50/60 Hz - Control: 115 or 208/230 VAC - Output: SPST - N.O.: 30 amps - Dimensions: 3.25" x 3" x 1.25"	- Mars: 32536 - Supco: TFM-2

Phase Loss and Reversal Protection • Ultra Low Cost

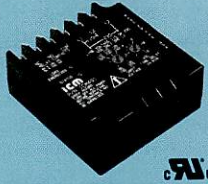
Phase Loss and Reversal Protection • Ultra Low Cost

ICM Control	Features and Applications	Specifications	Replaces
	ICM408 - Reliable 3-phase protection for single side - Monitors for phase reversal, phase loss, unbalance % and high/low voltage - Bright LED indicators for ON and FAULT - High/low voltage cut out: • High voltage cut out setpoint: +12% • Low voltage cut out setpoint: -12% - Highly reliable passive electronics - Power/phase loss detection: within 100 ms - User selectable unbalance voltage: 2 to 8% - Phase reversal detection: detects on power up - User selectable delay on make: .1 to 5 minutes 8-pin plug-in mount (base sold separately)	Voltage: 190-480 VAC Frequency: 50/60 Hz Adjustable DOB: .1-5 minutes Adjustable DOM: .1-5 minutes Heavy duty SPDT Relay output: - N.O./N.C. contacts: 10 amps resistive @ 250 VAC Dimensions: 4" x 2.5" x 1.75"	Mars: 32532, 32534, 32540, 32541, 32542
	ICM409 - Reliable 3-phase protection for single side - Monitors for phase reversal, phase loss, unbalance % and high/low voltage - Bright LED indicators for ON and FAULT - High/low voltage cut out: • High voltage cut out setpoint: +12% • Low voltage cut out setpoint: -12% - Highly reliable passive electronics - Power/phase loss detection: within 100 ms - User selectable unbalance voltage: 2 to 8% - Phase reversal detection: detects on power up - User selectable delay on make: .1 to 5 minutes - DIN rail mount	Voltage: 190-480 VAC Frequency: 50/60 Hz Adjustable DOB: .1-5 minutes Adjustable DOM: Heavy duty SPDT Relay output: - N.O./N.C. contacts: 10 amps resistive @ 250 VAC Dimensions: 4.25" x 3.5" x 2.375"	N/A
	ICM431 - Low cost 3-phase protection for single side - Monitors for phase reversal, phase loss, unbalance % as a function of input voltage - Bright LED indicators for ON and FAULT - Universal 3-phase input: 190-600 VAC - Control voltage: 18-30 VAC - Highly reliable passive electronics - Patented: U.S. Patent No. 5,337,206 8-pin plug-in mount (base sold separately)	Voltage: 190-600 VAC Frequency: 50/60 Hz Control: 18-30 VAC Output: Relay: SPST N.O.: 10 amps Dimensions: 4" x 2.5" x 1.75"	N/A
	ICM432 - Low cost 3-phase protection for single side - Monitors for phase reversal, phase loss, unbalance % as a function of input voltage - Bright LED indicators for ON and FAULT - Universal 3-phase input: 190-600 VAC - Control voltage input: 115, 208, 240 VAC - Highly reliable passive electronics - Epoxy coated for added protection - Patented: U.S. Patent No. 5,337,206 8-pin plug-in mount (base sold separately)	Voltage: 190-600 VAC Frequency: 50/60 Hz Control: 115 or 208/240 VAC Output: Relay: SPST N.O.: 20 amps Dimensions: 4" x 2.5" x 1.75"	N/A
	ICM462 - Low cost 3-phase protection for single side - Monitors for phase reversal, phase loss, unbalance % as a function of input voltage - Bright LED indicators for ON and FAULT - Universal 3-phase input: 190-600 VAC - Control voltage: 115, 208, 240 VAC - Highly reliable passive electronics - Patented: U.S. Patent No. 5,337,206 - DIN rail mount	Voltage: 190-600 VAC Frequency: 50/60 Hz Control: 115 or 208/240 VAC Output: Relay: SPST N.O.: 30 amps Dimensions: 3.75" x 2" x 3.2"	N/A

3-Phase Motor Protectors

ICM Control	Features and Applications	Specifications	Replaces
	ICM441 Protects Against: - Under voltage - Over temperature - Power interruptions - Rapid short cycling - Shorted temperature sensor - Open temperature sensor - Control duty, SPST relay layout - Anti-short cycle time delay, 4 minutes (nominal) 1-second manual bypass	Voltage: 120 or 208/240 VAC Frequency: 50/60 Hz Output: - Relay: SPST - N.O.: 6 amps resistive Dimensions: 3.25" x 3" x 1.25"	Bristol: 241680 Copeland: 071-0376-01, 071-0376-02, 071-0397-00, 071-0397-01, 071-0424-00, 071-0424-01, 071-9800-00, 071-9800-01 Mars: 37300, 37302, 37304, 37306, 37322 Texas Instruments: 15AA1600 B, 15AA1600 C, 15AA1603 B, 15AA1603 C, 31AA1600 E, 31AA1606 E
	ICM442 - Protects against over temperature in motor windings - Control Duty SPST Relay Layout: 10 amps, 250 VAC - Uses up to four (4) 100 Ohm thermistors in series	Voltage: 200-575 VAC Frequency: 50/60 Hz Voltage unbalance: Adjustable: 2-25% Control: 115-277 VAC Thermistors: Four (4) 100Ω thermistors in series Relay Rating: 250 VAC at 10 A Dimensions: 3.25" x 3" x 1.25"	• N/A
	ICM443 - Protects against over temperature in motor windings - Control Duty SPST Relay Layout: 10 amps, 250 VAC - Uses up to four (4) 100 Ohm thermistors in series	Voltage: 200-575 VAC Frequency: 50/60 Hz Voltage unbalance: Adjustable: 2-25% Control: 24 VAC Thermistors: Four (4) 100Ω thermistors in series Relay Rating: 250 VAC at 10 A Dimensions: 3.25" x 3" x 1.25"	• N/A

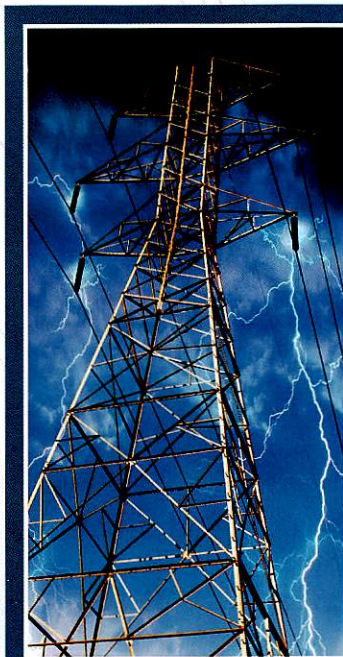
Single Phase Voltage Monitors

ICM Control	Features and Applications	Specifications	Replaces
	ICM491 - Low cost Single Phase Surge protection - Built in anti-short cycle protection - Detects high/low voltage conditions - Helps prevent rapid system recycling - LED indicators: Green (normal), Red (fault) - Heavy duty SPDT, isolated relay output - Interrogation delay prevents nuisance trips: 5 seconds	Voltage: 95-270 VAC Output: - Relay: SPDT - N.C./N.O.: 5 amps Time delay range: Adjustable 6-600 seconds Dimensions: 3.25" x 3" x 1.25"	A-1: EAC-401, EAC-402, EAC-403, EAC-404 Diversified: CV-100-RS, CV-200-RS15, CV-200-RS20 Wagner/DiversiTech: DSP-1
	ICM492 - Protects against over and under voltage, and rapid short cycling caused by transient faults and power interruptions - Easy-view, backlit digital display - RMS voltage monitoring - Adjustable voltage set point - Adjustable over voltage setting - Adjustable under voltage setting - Adjustable anti-short cycle time delay - Adjustable response time - Control mode (optional) 5-fault memory - Universal line voltage input - Heavy duty SPDT relay output - Universal control voltage input (for integrating a thermostat)	User adjustable settings: Voltage set point: 80-300 VAC Anti-short cycle time delay: 0-720 sec. Over/under voltage setting: 5-25% Control mode: ON and OFF Response time: 0.1-10 seconds Inputs: Line voltage: 80-300 VAC Frequency: 50/60 Hz Accuracy: ±2% Low power consumption: - Maximum 50 mA @ 120 VAC - Maximum 100 mA @ 240 VAC Control voltage: 18-240 VAC Output: Type: Dry relay contacts Form: SPDT Relay contact ratings: - N.C. contacts: 10A resistive @ 277 VAC - N.O. contacts: 10A resistive @ 277 VAC Dimensions: 3" x 3.2" x 1.35"	Wagner/DiversiTech: DSP-1
	ICM493 - Protects against over and under voltage, rapid short cycling caused by transients, and high-power surges - Easy to view, backlit digital display - Bank of five L-L surge arresters - Built-in 40A contactor - NEMA-rated 3R enclosure for outdoor use - Easy installation and setup - Ideal for mini-splits or other condensing units	User adjustable settings: Voltage set point: 200-240 VAC Over/under voltage setting: 5% - 10%, adjustable Anti-short cycle delay: 0.5-10 minutes # of surge arresters required for operation: 0-5 Number of trials: 1-5, auto Inputs: Line voltage: 180-264 VAC Frequency: 50/60 Hz Accuracy: +/- 2%, user calibration Output: Type: Contactor, 2-pole Contactor ratings: 40A FLA, 240A LRA Dimensions: 8" x 8" x 4"	N/A

Surge Protectors

ICM Control	Features and Applications	Specifications	Replaces
 	ICM517 • Easy installation • Low cost, high performance • Rugged, reliable • UL Listed, Type 2 device • NEMA Type 3R metal enclosure	• Service voltage: 120/240 volt, single phase • Maximum surge current: 100,000 Amps • Maximum energy dissipation: 1,020 Joules • Installation point: Electrical panel/disconnect • Diagnostics: Green light indicates surge suppression present • AC protection modes: L-L, L-N, L-G, N-G • Conduit connection: 3/4" • Dimensions: 5.0" x 2.78" x 2.16" • Weight: 0.55 lbs.	• Supco: SCM Plus, SCM150 • Intermatic: AG3000

ICM Surge Protective Devices

Common causes of power surges:

- Lightning storms
- Downed power lines
- Substandard / incorrect wiring
- Power outages/ system recovery grid overload
- Large appliances turning On/Off
- Old electrical components
- Short circuits
- Loose wiring

ICM493



See
Page 20



ICM517



See
above

**Why do you need protection?**

All homes are constantly under attack from power surges and spikes, even though they may not always be apparent. These energy irregularities can be caused from just about anything, including weather, poor wiring, old parts, not to mention an aging power grid that has difficulty handling today's energy demands. Over time, these repeated energy surges will wear down your equipment and reduce its life expectancy. It is common for homeowners to place surge protectors on their televisions, personal computers and appliances. However, people often forget about their HVAC system, which represents your home's most valuable electronic investment.

Why ICM Controls?

You can't see the harmful surges and transients in your power lines, but ICM's products can! For more than 30 years, ICM Controls has been a recognized leader for manufacturing controls that protect your valuable HVAC equipment against today's most common and severe power threats. From basic surge protective devices to line voltage monitors to combination devices, ICM Controls has you covered. Consult your local HVAC contractor to determine which control is right for your application. Located in North Syracuse, NY, ICM's quality products are proudly manufactured in the USA.

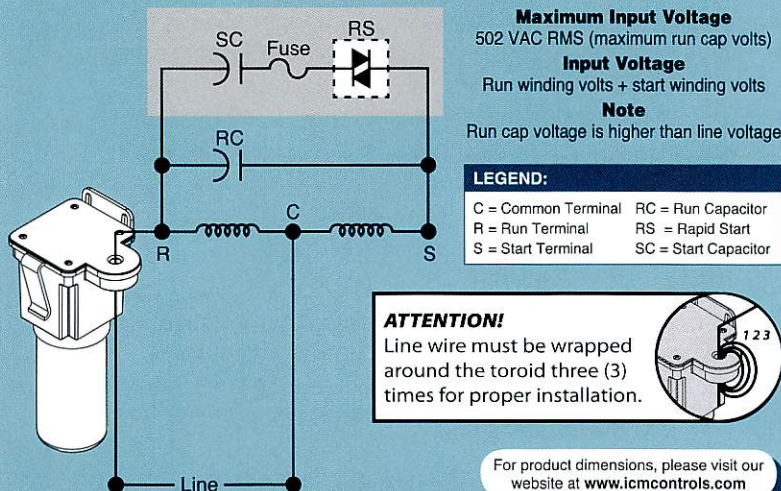
The Current Advantage

"EXTENDS THE LIFE OF YOUR COMPRESSOR"

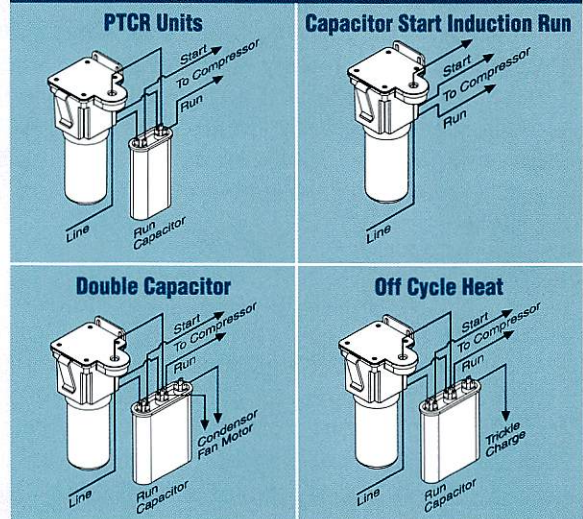
By monitoring the compressor current upon start-up, RapidStart® is able to engage the hard start capacitor for precisely the correct amount of time, ensuring maximum starting torque without the risk of supplying too much current into the start winding. A timed safety circuit is provided in the event the motor fails to start within 2 seconds. Current sensing hard start precisely increases starting torque.

ICM Control	Features and Applications	Specifications	Replaces
	ICM803 - Operates from 95-288 VAC - Patented current sensing circuitry - Easy to install, 2-wires - OEM approved - Solid-state circuitry - Boosts starting torque - Disengages upon start - Recycles instantly (less than 1 second) - Fuse protection - Not affected by voltage or current fluctuations - Not affected by ambient temperatures	Voltage: 95-288 VAC Maximum input voltage: 502 VAC Operating temperature range: -40°F to +149°F (-40°C to +65°C) Capacitor: 88-106 Mfd. 330 V Range: 1/12 to 3 HP applications	5-2-1: CSR-V1 - Kickstart: T05, KS8 - Supco: SPP-8, SPP-8E
	ICM805 - Operates from 95-288 VAC - Patented current sensing circuitry - Easy to install, 2-wires - OEM approved - Solid-state circuitry - Boosts starting torque - Disengages upon start - Recycles instantly (less than 1 second) - Fuse protection - Not affected by voltage or current fluctuations - Not affected by ambient temperatures	Voltage: 95-288 VAC Maximum input voltage: 502 VAC Operating temperature range: -40°F to +149°F (-40°C to +65°C) Capacitor: 145-175 Mfd. 330 V Range: 1/12 to 5 HP applications	5-2-1: CSR-U1, CSR-U2, CSR-U3 - Kickstart: KS1 - Supco: SPP-8, SPP-8E
	ICM810 - Operates from 95-288 VAC - Patented current sensing circuitry - Easy to install, 2-wires - OEM approved - Solid-state circuitry - Boosts starting torque - Disengages upon start - Recycles instantly (less than 1 second) - Fuse protection - Not affected by voltage or current fluctuations - Not affected by ambient temperatures	Voltage: 95-288 VAC Maximum input voltage: 502 VAC Operating temperature range: -40°F to +149°F (-40°C to +65°C) Capacitor: 243-292 Mfd. 330 V Range: 3 1/2 to 10 HP applications	N/A

Typical Wiring Diagram

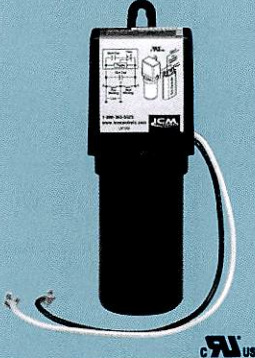


Assorted Configurations

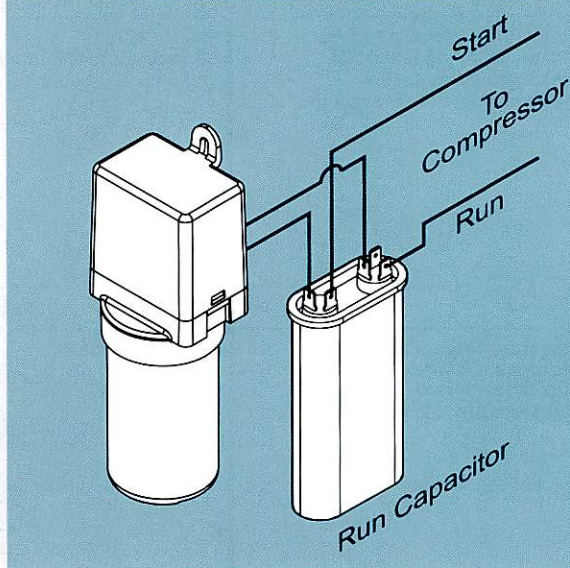


Voltage Sensing

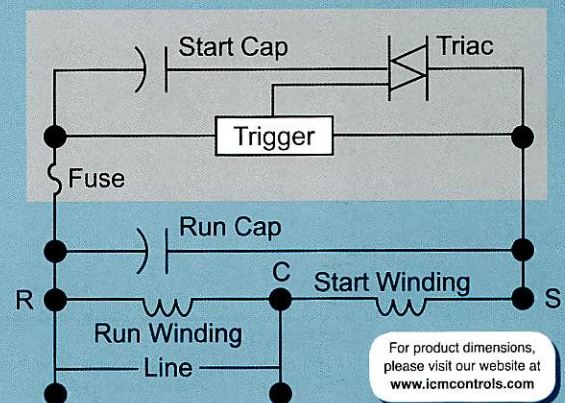
ICM's differential voltage sensing products employ patented circuitry which monitors differential compressor auxiliary voltage, determines the state of the motor and precisely engages and disengages the start capacitor. A timed safety circuit is provided in the event the motor fails to start within 2 seconds.

ICM Controls	Features and Applications	Specifications	Replaces
	ICM860 - Increases starting torque up to 500% - Ensures precise starts - Reduces inventory - Not affected by ambient temperature - Recycles Instantly (less than one second) - Dual voltage operation: either 115 or 240 VAC motors - Fuse protection - Not affected by voltage or current fluctuations	Voltage: 90-277 VAC Maximum input voltage: 390 VAC Operating temperature range: -40°F to +149°F (-40°C to +65°C) Capacitor: 88-106 Mfd. 330 V Range: 1/12 to 5 HP applications* * Recommended range is 1/12 to 3 HP applications.	Supco: SPP-5E, SPP-6E
	ICM866U - Patented circuitry with differential voltage sensing technology - Monitors differential compressor auxiliary voltage - Precisely engages/disengages the start capacitor - Not affected by ambient temperatures - Recycles instantly - Self-adjusting to changes in voltages - Does not rely on relay with pre-set, factory default ranges - Eliminates guesswork in "tweener" applications - Extends motor life - Rated for 1/12 to 5 HP applications - Reduces inventory, saves money - One model is all you need - Simple, two-wire installation - Faster install time and minimizes risk of accidental miswires - Multi-voltage operation 115 or 230 VAC motors - UL Recognized	Voltage: 90-240 VAC Recommended range: 1/12 to 5 HP Capacitor: 145-175 Mfd. 330 V	Supco: SPP5, SPP6, SPP5E, SPP6E, SPP7E, SPP8E, SPP9E, SPP10E Kickstart: KS1, TO-5, KS8 5-2-1: CSR-U1, CSR-U2, CSR-U3 Watsco: WSX1 Mars: 32708, SS1, SS5, 32703, 32704, 32701, 32702 DiversiTech: DST-5, DST-6

Wiring Diagram



System Diagram



Maximum Input Voltage = 390 VAC RMS
(maximum run cap volts)

Input Voltage = Run winding volts + start winding volts

Note: Run cap volts is higher than line voltage

PTCR Hard Start Capacitors

ICM Controls	Features and Applications	Specifications	Replaces
	ICM855 - Increases torque up to 300% - Positive Temperature Coefficient (PTC) technology - Easy to install - Low cost motor starting device	Voltage: 115-288 VAC Capacitor: 43-52 Mfd, 330 V Range: 1/2 to 10 HP (up to 1 1/2 HP recommended)	- A-1: WXS-5 - MARS: 32701, 35701 - Supco: SPP-5 - Wagner/DiversiTech: DST-5
	ICM856 - Increases torque up to 500% - Positive Temperature Coefficient (PTC) technology - Easy to install - Low cost motor starting device	Voltage: 115-288 VAC Capacitor: 130-156 Mfd, 330 V Range: 1/2 to 10 HP (2-5 HP recommended)	- A-1: WXS-6 - MARS: 32702, 35702 - Supco: SPP-6 - Wagner/DiversiTech: DST-6

Relay, Overload and Start Capacitors

ICM Controls	Features and Applications	Specifications	Replaces
	ICM857 - For single-phase commercial and domestic capillary refrigeration systems and freezers - Pre-wired for fast installation - Overload: 12A 145-175 mfd - For 1/12 to 1/5 HP motors	Operating voltage: 120 VAC Maximum voltage: 180 VAC Maximum current: 12A Retry time: Within 90 seconds	- Mars: 32481 - Supco: RCO810
	ICM858 - For single-phase commercial and domestic capillary refrigeration systems and freezers - Pre-wired for fast installation - Overload: 22A 243-292 mfd - For 1/4 to 1/3 HP motors	Operating voltage: 120 VAC Maximum voltage: 180 VAC Maximum current: 12A Retry time: Within 90 seconds	- Mars: 32741 - Supco: RCO410
	ICM859 - For single-phase commercial and domestic capillary refrigeration systems and freezers - Pre-wired for fast installation - Overload: 30A 243-292 mfd - For 1/3 to 1/2 HP motors	Operating voltage: 120 VAC Maximum voltage: 180 VAC Maximum current: 12A Retry time: Within 90 seconds	Supco: RCO210

RapidStart® "Current Sensing" Comparison	HARD START			SOFT START	
	Differential Current Relay	Potential Relay		PTCR Devices	Timing Devices
	ICM RAPIDSTART®	KICKSTART	Conventional 3-Wire Relay & Capacitor Kit	GEMLINE HS600 & HS650 MARS 32701 & 32702 ROBERTSHAW 600-052 & 600-057 SUPCO SPP5, SPP6, SPP7 WATSCO WSX-5, WSX-6	SUPCO SPP8 WATSCO WSX-1
Self Adjusting	YES	NO	NO	NO	NO
Uses Current Differential Technology	YES	NO	NO	NO	NO
Uses Potential Motor Start Relay	Not Required	YES	YES	NO	NO
Two Wires, Non-Polarized	YES	YES	NO	YES	YES
Recycles Instantly	YES	YES	YES	NO	NO
Senses Whether Motor Started or Not	YES	YES	YES	NO	NO
Replaces 3-Wire Relay and Capacitor Kit	YES	YES	YES	NO	NO
UL Recognized #E11867	YES	YES	YES	NO	NO
Timing Circuit Device	NO	NO	NO	YES	YES
Safety Cut-Off	YES	NO	NO	NO	NO
Affected by Ambient Temperature	NO	NO	NO	YES	YES
Factory Calibration	Not Required	YES	YES	YES	YES
Voltage Sensitive	NO	NO	NO	YES	NO
PTCR Device	NO	NO	NO	YES	YES
Fuse Protected	YES	NO	NO	NO	NO

RapidStart® "Voltage Sensing" Comparison	HARD START			SOFT START	
	Differential Voltage Relay	Potential Relay		PTCR Devices	Timing Devices
	ICM RAPIDSTART®	KICKSTART	Conventional 3-Wire Relay & Capacitor Kit	GEMLINE HS600 and HS650 MARS 32701 and 32702 ROBERTSHAW 600-052 and 600-057 SUPCO SPP5, SPP6 and SPP7 WATSCO WSX-5 and WSX-6	SUPCO SPP5 SPP6 WATSCO WSX-1
Self Adjusting	YES	NO	NO	NO	NO
Uses Differential Voltage Technology	YES	NO	NO	NO	NO
Uses Potential Motor Start Relay	Built-in w/ ICM866U Not required on ICM860	YES	YES	NO	NO
Two Wires, Non-Polarized	YES	YES	NO	YES	YES
Recycles Instantly	YES	YES	YES	NO	NO
Senses Whether Motor Started or Not	YES	YES	YES	NO	NO
Replaces 3-Wire Relay and Capacitor Kit	YES	YES	YES	NO	NO
UL Recognized #E11867	YES	YES	NO	NO	NO
Approved by Compressor Manufacturers	YES	YES	YES	NO	NO
Approved by Equipment Manufacturers	YES	YES	YES	NO	NO
Used by OEM Manufacturers	YES	NO	NO	NO	NO
Safety Cut-Off	YES	NO	NO	NO	NO
True Power Factor Starting	Not Required	YES	YES	YES	YES
Factory Calibration	Not Required	YES	YES	YES	YES
Voltage Sensitive	NO	NO	NO	YES	NO
PTCR Device	NO	NO	NO	YES	YES
Timing Circuit Device	NO	NO	NO	YES	YES
Affected by Ambient Temperature	NO	NO	NO	YES	YES

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All features and specifications subject to change without notice.

Application Assistance
800.365.5525

Customer Service Fax
315.233.5282

Phone
315.233.5266



Series UMSR

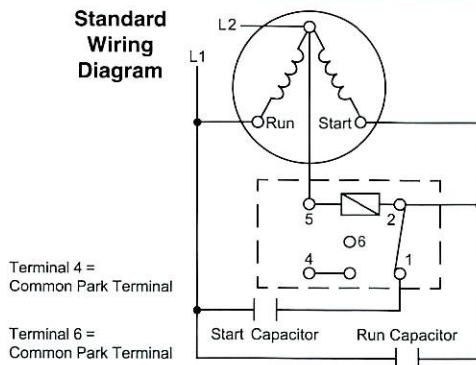
APPLICATIONS

ICM's Universal Motor Starting Relay incorporates patented differential voltage sensing and a non-positional mounting configuration to offer a single replacement for all standard potential relays.

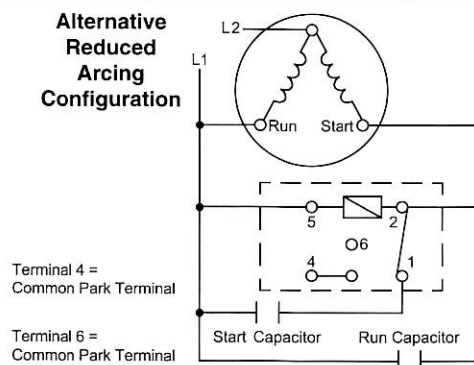
Great way to reduce inventory. Ideal for A/C, commercial refrigeration, heat pump or any single-phase motor application up to 10 HP.

WIRING DIAGRAM

Standard Wiring Diagram



Alternative Reduced Arcing Configuration



ICM Control



ICM US

Features and Applications

UMSR-50B

- Replacement for all standard potential relays
- Patented differential voltage sensing
- No user-adjustments required
- Non-positional mounting configuration
- 50A switching capabilities
- Universal mounting bracket for easy installation
- .250" quick connect termination
- Safety timer

Also available with 30A switching capabilities (UMSR-30)

Specifications

General:

- **Input: Voltage rating:** 110-270 VAC, Single Phase
- **Maximum voltage contact rating:** 502 VAC (absolute)
- **Motor power rating:** Up to 10 HP
- **Operating position:** Non-positional
- **Safety time out:** Approximately 1-second per 100 microfarads
- **Consumption:** 5 VA max.
- **Insulation:** Class B (130°C); Conforms to IEC 1000- standards (6kV impulse / 6kV contact)
- **Life expectancy (minimum operations):**
 - **Mechanical:** 1 x 10⁶
 - **Electrical:** 1 x 10⁶ at 16A 400 VAC
5 x 10⁵ at 35A 400 VAC (break only)
5 x 10⁵ at 50A 400 VAC (break only)

Contacts:

- **Contact rating:** 50A (break only), 400 VAC cos Ø = 0.7 to 0.8

Replaces

- All standard potential relays
- **Supco:** APR5, SUPR

Motor Speed Controls

Comfort Control Center

Applications

The award-winning CC750 Comfort Control Center works with your existing single-phase A/C or Heat Pump to more effectively remove moisture from the air. Provides enhanced comfort and improved indoor air quality with greater system efficiencies. Generates warmer air discharge temperatures for winter months in heat pump applications.

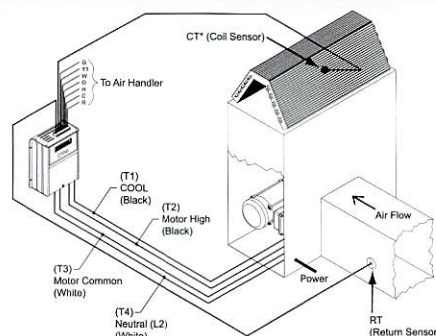
Converts an inverter or standard grade PSC or shaded pole motor to a variable speed motor. Simple, menu driven programming gives the installer the ability to fine-tune key parameters that establish a latent and sensible cooling ratio best suited for the unique conditions of each installation. Also provides warmer air discharge temperatures for heat pumps during winter months.



Mode of Operation

A variable frequency/variable voltage fan motor speed control, the CC750 varies the blower speed based on the evaporator and return air temperature. A field adjustable temperature differential between the evaporator and the return air duct is maintained by controlling blower speed. A simple to use, menu driven program lets the installer establish a latent and sensible cooling ratio to best meet the specific environmental conditions unique to each install.

Wiring Diagram



ICM Control



Features and Applications

CC750-115 or CC750-230

- Converts an inverter or standard grade PSC or shaded pole motor to a variable speed motor
- Field programmable
- Varies the air flow based on delta T
- Mounts in or out of air handler
- Motor lubrication algorithm
- Inverter bypass
- Over-current protection
- Standard thermostat interface
- Available in 115 VAC (CC750-115) and 230 VAC (CC750-230)
- Replaces: N/A

Specifications

Ratings

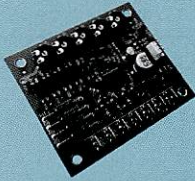
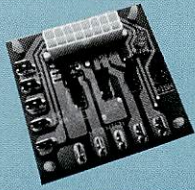
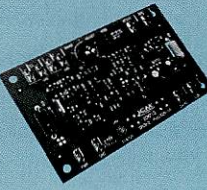
- **Nom 24 VAC inputs (±25%):** 18-30 VAC RMS absolute
- **Power consumption:** 10 watts typical
- **Line Ratings:** Nominal, 115 VAC RMS
- **Inverter operation:** 95-135 VAC RMS absolute
- **Bypass operation:** 85-145 VAC RMS absolute
- **Maximum inverter amps:** 10 amps RMS
- **Maximum bypass amps:** 20 amps (60 Hz)
- **Line Ratings:** Nominal 208-230 VAC RMS
- **Inverter operation:** 180-264 VAC RMS absolute
- **Bypass operation:** 170-264 VAC RMS absolute
- **Maximum inverter amps:** 8.5 amps RMS
- **Maximum bypass amps:** 10 amps (60 Hz)

Electronically Commutated Motor

ICM's controllers provide a line of form, fit and functional OEM replacements for efficiently controlling a motor's speed.

Manual or automated control of an ECM is available (model dependent), while monitoring and displaying the RPM/CFM of the motor.

ECM Controls

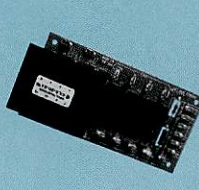
ICM Control	Features and Applications	Specifications	Replaces
	ICM708 A low current pulse width modulated signal for controlling the speed of a GE 2.3 ECM based on a user settable potentiometer. RPM Feedback On-board LED diagnostics for a visual indication of the motor's status.	- Power supply: 18-30 VAC - RPM input: 5 VDC - PWM & ON/OFF outputs: 14 VDC (PWM 80 Hz)	EVO™/ECM-VCU-36-mp
	ICM709 A low current pulse width modulated signal for controlling the speed of a GE 2.3 ECM based on user settable potentiometers (SET0 - SET4) and a thermostat's requested call. RPM Feedback On-board LED diagnostics for a visual indication of the motor's status.	- Power supply: 18-30 VAC - RPM input: 15 VDC - Thermostat inputs: (SPD1 - SPD4): 18-30 VAC - PWM & ON/OFF outputs: 14 VDC (PWM 80 Hz)	EVO™/ECM-4Spd
	ICM711 The ICM711 is used to control the speed of an Electronically Commutated Motor (ECM) by automated control systems via a 0-10 VAC input (SIGNAL & COMMON), or manually via potentiometer (SET SPEED). The ICM711 will also provide motor speed feedback via visual LED indication (MOTOR RPM) as well as a 0-10 VAC output (RPM & COMMON) to supply an automated control system.	Power supply: 18-30 VAC, 60 Hz Signal & common: 0-10 VDC → 0-100% PWM request ECM supplied feedback: 5 VDC (motor at rest or not connected) PWM supplied to ECM: 18 VDC (10mA max) ON/OFF supplied to ECM: 18 VDC (10mA max) RPM & common: 0-10 VDC (5mA max) → 0 to 2000 RPM (10 RPM increments)	EVO™/ECM-ACU+S1
	ICM712 The ICM712 is a motor speed controlling interface for use with a low voltage thermostat or automated control unit to control the ECM's output.	24 VAC thermostat inputs: O, MED, HIGH, Y1 & LOW - PWM input: BK/PWM - Electrical rating: 24 VAC (18-30 VAC)	IEC: E025-71521506
	ICM713 - Single or dual temperature inputs - Heat pump bypass circuitry - Low current pulse width modulated output - Lead free design	- Voltage: 18-30 VAC - Frequency: 50/60 Hz - Output: 13.5 VDC, 10mA maximum, 80 Hz, 0-100% - Operating temperature: -40°F to 158°F (-40°C to 70°C) - Storage temperature: -40°F to 185°F (-40°C to 85°C) - Temperature probes: 10 KOhm (NTC, J-Curve)	Hoffman: 880-ECM(10)SSHP

Fan Safety Alarm

ICM Control	Features and Applications	Specifications
	ICM6100 - Fan safety alarm circuit - Outputs provided ensure that a DDC controller can determine the root cause of a shutdown - Dip switch to bypass inputs not in use - Ideal for air handling unit safety-shutdown 2.75" mounting track provided	Input: 24 VAC; 50/60 Hz (4A max) Output Relay outputs (6): 2A @ 24 VAC/DC per output Master relay 24 VAC (2): 1.5A @ 24 VAC per output Master relay dry contacts: 10A @ 250 VAC Alarm status: Green LED ON = Activated Red LED ON = Not Activated Replaces: Functional devices: RIBMNLB-6

Fan Coil Relay Control Boards

Fan Coil Relay Controls

ICM Control	Features and Applications	Specifications
	ICM6200 - Ability to operate line voltage 3-speed fan motor with low voltage controls - Compatible with 4-pipe, 2-pipe, HP, auto-changeover 20 VA 24 VAC power supply - Suitable for 1/8 HP motors 1/4" Quick connect terminals and mounts with standard 3" track	Input Transformer primary: 115 VAC; 50/60 Hz Fan inputs HI, MED, LOW: nominal 17mA @ 24 VAC Heat & cool: 1.5A @ 24 VAC Output Transformer secondary: 24 VAC; 20 VA Relay outputs H, M, L: 1/8HP @ 115 VAC, 10A @ 240 VAC resistive Heat & cool valves: 1.5A @ 24 VAC Replaces: Honeywell W6380B, BSR/Xactone FC/H-2
	ICM6201 - Ability to operate line voltage 3-speed fan motor with low voltage controls - Ability to operate line voltage electric heating element with low voltage controls - Compatible with 4-pipe, 2-pipe, aquastat autochangeover, and heat pump 20 VA 24 VAC power supply - Suitable for 1/8 HP motors - Screw terminal receptacles and mounts with standard 3" track	Input Transformer primary (L1 & L2): 115 VAC; 50/60 Hz HI, MED, LOW (8, 7, 6): Nominal 17 mA @ 24 VAC Inputs 1, 2, 3, 4, 5, Aqua heat & Cool: 1.5A @ 24 VAC Output Transformer secondary: 24 VAC; 20 VA Relay outputs H, M, L: 1/8 HP @ 115 VAC, 10A @ 240 VAC resistive HTR output: 30A @ 240 VAC resistive Heat & cool valves: 1.5A @ 24 VAC Replaces: Honeywell W6380B, BSR/Xactone FC/H-1
	ICM6202 - Ability to operate line voltage 3-speed fan motor with low voltage controls - Compatible with 4-pipe and 2-pipe systems with auto-changeover 20 VA 24 VAC power supply - Suitable for 1/8 HP motors 1/4" Quick connect terminals - Mounts with standard 3" track	Input: Transformer primary: 115 VAC/230 VAC; 50/60 Hz Fan inputs HI, MED, LOW: Nominal 17mA @ 24 VAC Heat & cool: 0.83A @ 24 VAC Outputs: Transformer secondary: 24 VAC; 20 VA Relay outputs H, M, L: 1/8HP @ 115 VAC, 10A @ 240 VAC resistive Heat & cool valves: 0.83A @ 24 VAC Mechanical: 5.850" x 3.000" x 1.850", Mounts in standard 3" track

Air Handling Controller

Electric or Water Heating Systems

ICM Control	Features and Applications	Specifications	Replaces
	ICM6500 - Multi-functional control - Microprocessor controlled - Precision timing - Low cost solution	Input voltage: 120/240 VAC, 50/60 Hz Valve output: 24 VAC, 50/60 Hz Blower fan: 120/240 VAC, 50/60 Hz Water pump: 120/240 VAC, 50/60 Hz Timing - Cool fan ON delay: 0 sec - Cool fan OFF delay: 45 sec - Electric heat fan ON delay: 0 sec - Electric heat fan OFF delay: 0 sec - Water heat fan ON delay: 60 sec - Water heat fan OFF delay: 30 sec Dimensions: 2"W x 7"L	Vtronics: R200A

Fan Blower • OFF Delay on Break

APPLICATIONS

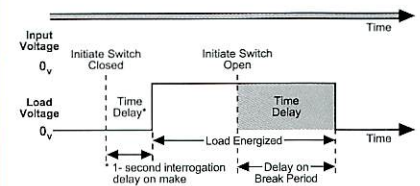
"OFF delay on break"

Controls the circulating fan in heat pump, air conditioning and forced air systems. OFF delay timing function continues to run the fan at the end of the heating/cooling cycle, thereby purging ducts of residual air and increasing system efficiency.

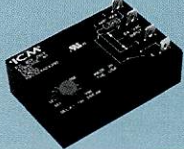
MODE OF OPERATION

Power must be applied before and during the time delay period. When the initiate contact closes, the load energizes and remains energized as long as the initiate contact is closed. The time delay begins when the initiate contact opens. At the end of the time delay period, the load is turned off. If the initiate contact recloses during the time delay period the load remains energized and the time delay is reset to zero. Removal of input power during the delay turns off the load and resets the time delay to zero. A one-second interrogation delay is provided to avoid nuisance trips due to thermostat bounce or tampering.

TIMING DIAGRAM



OFF Delay Timing Purges Residual Air

ICM Control	Features and Applications	Specifications	Replaces
	ICM253 - UL 873 recognition for compressor applications - Post-purge fan delay timer - OFF delay purges ducts of residual air at the end of the heating/cooling cycle - Interrogation delay eliminates nuisance trips due to thermostat bounce/tampering	Voltage: 18-30 VAC 1 amp maximum 40 mA minimum 10 amp inrush Adjustable time delay: 12-390 seconds Dimensions: 2" x 3"	Field Controls: 46144700 Gemline: 1C216 Mars: 32393

Fan Blower • Dual On/Off

APPLICATIONS

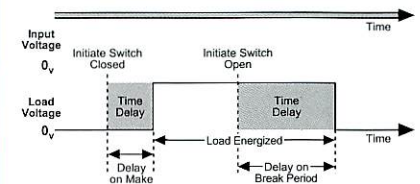
"ON delay on make" and "OFF delay on break"

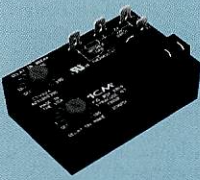
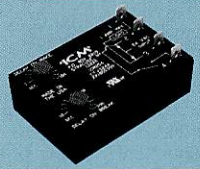
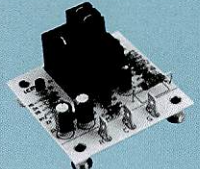
Controls the circulating fan in heat pump, air conditioning and forced air systems. Delay on make lets air reach proper level prior to turning on the fan. OFF delay timing function continues to run the fan at the end of the heating/cooling cycle, thereby purging ducts of residual air and increasing system efficiency.

MODE OF OPERATION

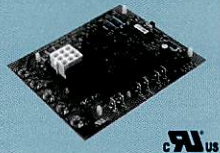
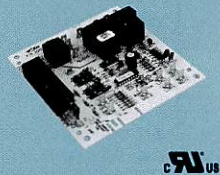
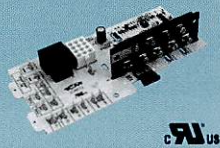
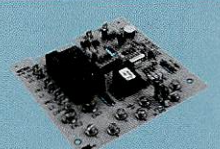
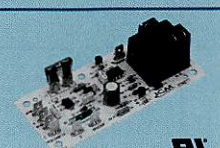
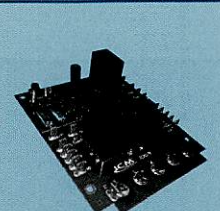
Power must be applied before and during the time delay period. When the initiate contact closes, the delay on make period begins. The load then energizes and remains energized as long as the initiate contact is closed. The delay on break period begins when the initiate contact opens. At the end of the time delay, the load is turned off. If the initiate contact recloses during the time delay, the load remains energized and the time delay is reset to zero. Removal of input power during the delay turns off the load and resets the time delay to zero.

TIMING DIAGRAM

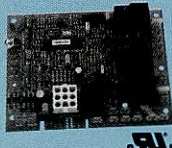
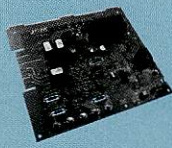
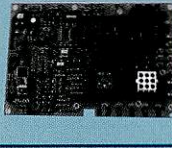
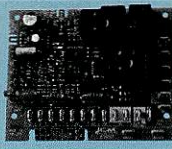
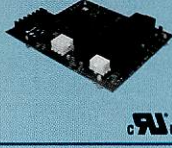
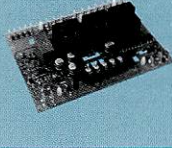


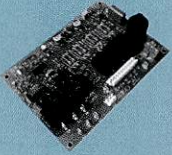
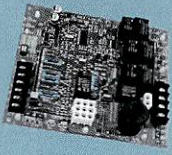
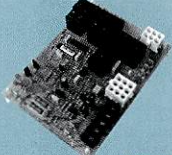
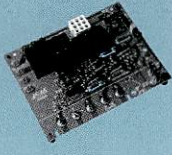
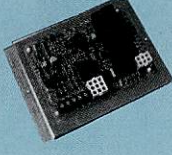
ICM Control	Features and Applications	Specifications	Replaces
	ICM251 - Drives fan directly - High power, relay output - Dual function fan delay timer - Controls the circulating fan in heat pump, A/C and forced air systems - OFF delay controls fan relay to purge ducts of residual air at the end of the heating/cooling cycle - ON delay allows air to reach the proper comfort level prior to energizing the fan 115 and 230 VAC are also available, please consult factory (HBVR series)	Voltage: 18-30 VAC Output: - N.O.: 20 amps @ 240 VAC - N.C.: 10 amps @ 240 VAC Time delays adjustable: - ON: 1-180 seconds - OFF: 12-390 seconds Dimensions: 2" x 3"	Mars: 32377, 32378, 32379
	ICM254 - Dual function fan delay timer - Controls the circulating fan in heat pump, A/C and forced air systems - OFF delay controls fan relay to purge ducts of residual air at the end of the heating/cooling cycle - ON delay allows air to reach the proper comfort level prior to energizing the fan	Voltage: 18-30 VAC 1 amp maximum 40 mA minimum 10 amp inrush Time delays adjustable: - ON: 1-180 seconds - OFF: 12-390 seconds Dimensions: 2" x 3"	Honeywell: S876A1016 Watco: PSTD-000-005W, PSTD-000-060W
	ICM255 - Low cost open board design - High power, relay output - Dual function fan delay timer - Controls the circulating fan in heat pump, A/C and forced air systems - OFF delay purges ducts of residual air - ON delay allows air to reach the proper comfort level prior to energizing the fan	Voltage: 18-30 VAC - N.O.: 20 amps @ 240 VAC - N.C.: 20 amps @ 240 VAC Time delays fixed: - ON: 1 second - OFF: 60 seconds Dimensions: 2.5" x 2.5"	A-1: 5893 Bard: 8201-056 Mars: 32574 Rheem: 42-22515-01, 42-22515-02, 42-22515-03 Snyder General/ICP: 1395336

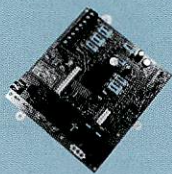
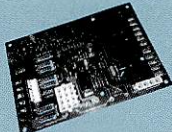
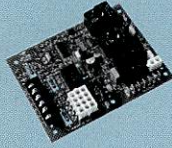
Form, Fit and Functional OEM Replacement Parts

ICM Control	Features and Applications	Specifications	Replaces
	ICM256 - Fan post purge timer to control circulating fan in forced air systems - Dual function 7 second ON delay / 65 second OFF delay - Speed up terminals for test mode - Fuse protected control voltage - High power relay output	Input - Control voltage: 18-30 VAC - Frequency: 50/60 Hz Output - Type: Relay - Form: SPST N.O. - Rating: 25 amps @ 240 VAC Time Delays - ON delay: 7 seconds - OFF delay: 65 seconds Speed Up Options - Speed up to C = Reduced delay (3 seconds ON, 5 seconds OFF) - Speed up to R = No delay	Goodman: PCBFBM-103
	ICM270 - Dual function fan delay timer - Controls the circulating fan in heat pump, A/C and forced air systems - OFF delay purges ducts of residual air - ON delay allows air to reach the proper comfort level prior to energizing the fan	Voltage: 18-30 VAC Contact ratings: Heat/cool speed - N.O.: 20 amps @ 240 VAC - N.C.: 10 amps @ 240 VAC Time delays: - Blower ON delay: 30 seconds - Blower OFF delay: 90, 120, 150, 180 seconds	- Evcon: 2702-300 - Rheem: 47-22827-01, 47-22827-81/82/83, 47-22828-01/02 - Robertshaw: 695-003
	ICM271 - Reliable solid state fan blower control - Specifically designed to replace popular gas furnace centers - Pin selectable blower delays • High power, relay output - Dual function fan delay timer - Controls the circulating fan in HP, A/C and forced air systems - OFF delay purges ducts of residual air - ON delay allows air to reach the proper comfort level prior to energizing the fan	Voltage: 18-30 VAC Contact ratings: - N.O.: 20 amps - N.C.: 10 amps Time delays: - Heat ON delay: 75 seconds - Heat OFF delay: 105 seconds - Cool OFF delay: 90 seconds	- Carrier: 302075-3, CES0110017, CES0110018, HH84AA010, HH84AA011, HH84AA012, HH84AA013, HH84AA020, P771-7002 - Robertshaw: 695-100
	ICM272 - Cooling control module with fan delay - Integral low voltage terminal board with field thermostat wiring - Electronic air cleaner output • High power, relay output - DC output for fan relays and 1st stage of electric heater control - Interlock circuitry prevents 2nd & 3rd stage electric heat energization without proper fan operation	Voltage: 18-30 VAC Contact ratings: - N.O.: 20 amps - N.C.: 10 amps Time delay: - Blower OFF delay: 60 seconds	- Carrier: HK61GA001, HK61GA003 - Texas Instruments: 2FD-1
	ICM273 - Solid state output - Silent operation, "no clicking" - Controls the circulating fan in HP, A/C and forced air systems - OFF delay purges ducts of residual air	Voltage: 18-30 VAC Output: 2 amps @ 240 VAC Time delay: - Blower OFF delay: 60 seconds	EMI: 240000-969
	ICM274 - Microprocessor-based fan blower control - Built in humidity relay - Manually adjustable post-purge OFF delay from 60-240 seconds - Electronic air cleaner output	Voltage: 18-30 VAC Outputs: - Y out: 1.5 amps - Fan: 2 amps - Elec. heat relay: 30 amps @ 240 VAC Time delay: - Blower OFF delay: 60 seconds	EMI: 240-1764
	ICM275 - Heavy duty heat relay - Purges ducts of residual air - Integral short cycle protection	Voltage: 18-30 VAC Contact ratings: - High: 20 amps @ 240 VAC - Low: 10 amps @ 240 VAC Time delays: - Heat ON delay: 60 seconds - Heat OFF delay: 60-240 seconds - Cool OFF delay: 90 seconds	- Carrier: CES0110019, HH84AA001, HH84AA003, HH84AA005, HH84AA009, HH84AA014, HH84AA015, HH84AA021 - Robertshaw: 695-101
	ICM277 - Microprocessor-based fan blower - For circulating fan in heat pump, A/C and forced air systems	Voltage: 18-30 VAC Contact ratings: - N.O.: 20 amps - N.C.: 10 amps Time delays: - Blower ON: 7 seconds - Blower OFF: 65 seconds	Goodman: B1370735S, PCBFBM131S
	ICM278 - Controls blower motor and inducer - Combines functionality of two boards into one - Microprocessor-based precision - Adjustable blower OFF delay - Compatible with 24 VAC standard thermostats	Input voltage 120/240 VAC: N1-N5, S1-S5, H, L, L1, D1 18-30 VAC: Y, G, W, C, R, W2, X, HL, PS1, PS2 Line frequency: 60 Hz Operating temperature: -40°F to +176°F Maximum operating humidity: 95% R.H. non-condensing @ 50°C Time delays - Heat ON 60 seconds - Heat OFF 60-200 seconds - Cool OFF 40 seconds	Carrier: HH84AA017 and HH84AA018 (replaces both boards together)

ICM offers low cost, form, fit and functional replacement furnace controls for many popular OEM models. Our furnace controls come standard with many safety features including 100% gas shutoff in case of ignition failure.

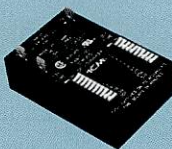
ICM Control	Features and Applications	Specifications	Replaces
	ICM280 - Microprocessor-based fan blower - Inducer fan outputs - Hot surface ignitor output - Flame sensor input - Gas valve output - Status LED for fault codes - Twinning compatible with another ICM280 board	Voltage: Line (98-132 VAC) @ 60 Hz Fan: 2 HP @ 240 VAC Inducer motor: 7 amps @ 250 VAC Gas valve: 1 amps @ 24 VAC Ignitor: 5 amps @ 120 VAC	Goodman: B1809906, B1809908, B1809910, B1809913, B1809913S, UTEC: 1012-933D Texas Instruments: 41F-5 White-Rodgers: 50T35-730, 50T35-743
	ICM281 - Control gas valve, ignitor, blower motor, inducer, humidifier and air cleaner - Microprocessor-based - Designed for 100% gas shutoff in case of ignition failure - Model selection of 80+ and 90+ furnace operation - Reverse polarity protection - Secondary brownout voltage protection - Heating and cooling fan functions in response to standard thermostat - Provides diagnostic LEDs to aid in troubleshooting - Twinning compatible with another ICM281 board	Voltage: Line (98-132 VAC) @ 60 Hz Operating temperature: -40°F to 176°F -40°C to 75°C Ignitor: 5A @ 120 VAC Cool blower: 30A, 2HP, 240 VAC Heat: 5A, 1/2 HP, 240 VAC Inducer motor: 4A, FLA-8.0 LRA @ 120 VAC Gas valve: 1.5A @ 30 VAC	Carrier: CES0110020, CES0110048, CES0110057-00, CES0110057-01, CES0110057-02, HH84AA016
	ICM282A - Control gas valve, ignitor, blower motor, inducer, humidifier and air cleaner - Microprocessor-based - Designed for 100% gas shutoff in case of ignition failure - Reverse polarity protection - Secondary brownout voltage protection - Heating and cooling fan functions in response to standard thermostat - Provides diagnostic LEDs to aid in troubleshooting - Includes adapter harness (not shown) - Twinning compatible with another ICM282A board	Voltage: Line (98-132 VAC) @ 60 Hz Operating temperature: -40°F to 176°F -40°C to 75°C Ignitor: 5A @ 120 VAC Cool blower: 30A, 2HP, 240 VAC Heat: 5A, 1/2 HP, 240 VAC Inducer motor: 4A, FLA-8.0 LRA @ 120 VAC Gas valve: 1.5A @ 30 VAC	Carrier: HK42FZ004, HK42FZ007, HK42FZ008, HK42FZ009, HK42FZ011, HK42FZ013, HK42FZ016, 325878-751
	ICM284 - Microprocessor based - Controls vent motor, blower control, hot surface ignitor and gas valve - Monitors timing, trial for ignition, flame sensing and lockout - Diagnostic LEDs to aid in testing/troubleshooting	Line voltage: 208 VAC @ 60 Hz Ignitor: 5A resistive @ 208 VAC Heat blower: 10A, .5 HP, 250 VAC Cool blower: 30A, 2HP, 240 VAC Inducer motor: 4A, 120 VAC Gas valve: 4A @ 24 VAC Compressor: 5A resistive @ 24 VAC	York: SI-03101280000
	ICM286 - Microprocessor-based precision - Controls inducer and blower fan motors, hot surface ignitor, and gas valve - Monitors timing, trial for ignition, flame sensing, pressure and limit switches, and lockout - Designed for 100% gas shutoff in case of ignition failure - Reverse polarity protection - Twinning compatible with another ICM286 boards - Compatible with LP or natural gas	Trial for ignition: 7 seconds Pre-purge time: 15 seconds Ignitor warm up time: 7 seconds Post-purge time: 15 seconds Total trials for ignition: 3 (auto reset after 1 hour) Heat blower ON: 30 seconds Heat blower OFF: Selectable 90/120/150/180 seconds Fan (Heat) ON/OFF delay: 1 second Cool ON: 5 seconds Cool OFF: 45 seconds	Goodman: PCBFB112S, B18099-26S, 0130F00005S
	ICM287 - Microprocessor based - Controls inducer and blower control - Monitors timing and gas valves	Line voltage: 120 VAC @ 60 Hz Control voltage: 24 VAC @ 60 Hz Heat blower: 10A, 120 VAC Cool blower: 30A, 120 VAC Inducer blower: 30A, 120 VAC	Goodman: B18099-04
	ICM288 - Microprocessor-based precision - Monitors pressure, roll-out and limit switches - Controls gas valve, inducer draft motor, circulating blower and hot surface ignitor. - Reverse polarity detection - Twinning compatible with another ICM288 board - Diagnostic LEDs to aid in testing/troubleshooting	Voltage range: Line (98-132 VAC) @ 60 Hz Ignitor: 5A, 120 VAC Cool blower: 10A, 2HP, 240 VAC Heat: 5A, 1/2 HP, 250 VAC Inducer blower: 4A, 120 VAC Gas valve: 1A, 24 VAC Humidifier motor: 0.5A, 24 VAC Electronic air cleaner: 1A, 120 VAC	Rheem: 62-24084-82
	ICM289 - Controls inducer fan motor, blower fan and monitors limit switches - Microprocessor based design - Functions with all 24 VAC thermostats	Voltage range: Line (98-132 VAC) @ 60 Hz Cool blower: 20A @ 120 VAC Heat blower: 20A @ 120 VAC Inducer motor: 5A @ 120 VAC Cool blower ON delay: 1 second Cool blower OFF delay: 1 second Heat blower ON delay: 45 seconds Heat blower OFF delay: 90, 150, 210 or 270 seconds	Lennox: Replaces all BCC1, BCC2 and BCC3 circuit boards, including 48K98 and 45K48.

ICM Control	Features and Applications	Specifications	Replaces
 	ICM291 • Direct Spark Ignition (DSI) control board • Microprocessor-based • Controls combustion, blower and indoor motors; spark ignitor and the gas valve • Monitors timing, trial for ignition, flame sensing and lockout • 100% lockout safety feature • Compatible with LP or natural gas • Status LED for fault codes to aid in troubleshooting	• Control voltage: 24 VAC (18-30 VAC), 60 Hz • Line voltage: 208/230 VAC, 60 Hz • Power cons: 0.3A plus gas valve current @ 24 VAC • Operating temp: -40°C (-40°F) to 75°C (176°F) • Pre-purge: 45 seconds • Trial for ignition: 5+2 sec. • Retry period: Every 20 seconds for 15 minutes • Lockout: manual reset • Post-purge: 45 seconds • Power: RT and C • Thermostat interface: R, W, G • Safety switches: RS, LS, and CS • Combustion motor Hall Effect sensor • Flame sensing • Spark • Gas valve: GV • Combustion motor: CM • Blower motor: BM • Indoor fan motor: IFO • LED indicators • Red LED: <i>Steady ON</i> – normal operation <i>Flashing</i> – fault codes	• Carrier: LH33WP003/3A
 	ICM292 • Direct Spark Ignition (DSI) control board • Microprocessor-based • Controls induced draft and indoor blower motors; humidifier output, spark ignitor and gas valve • Monitors timing, trial for ignition, flame sensing and lockout • 100% lockout safety feature • Compatible with LP or natural gas • Status LEDs for fault codes to aid in troubleshooting	• Control voltage: 24 VAC (18-30 VAC), 60 Hz • Line voltage: 115 VAC, 60 Hz • Power cons: 0.3A plus gas valve current at 24 VAC • Operating temp: -40°C (-40°F) to 75°C (176°F) • Pre-purge: 30 seconds • Trial for ignition: 7 sec. • Retries: 2 groups of 2, 30 seconds delay within the group and 3 minutes delay between groups • Lockout: 1 hour • Power: 24 VAC and COM • Post-purge: 90, 120, 160 and 180 seconds • Thermostat interface: R, W, Y and G • System switches: Vent pressure and limit switches (main and over-temperature switches in series) • Flame sensing • Spark: SE • Gas valve: GV • Heat blower OFF delay: SW1 toggle switch • Spark: SE • Gas valve: GV • Inducer draft motor: IDM • Electric Air Cleaner: EAC • Relay: HUM • Heat/cool relay: H/C • Blower motor: FAN, COOL and HEAT speeds • LED indicators: • Power, green LED: PWR • Status, green LED: OK • Flame status, yellow LED: FLAME	• Rheem: 62-24140-04
 	ICM2801 • Controls vent motor, blower control, hot surface ignitor and gas valve • Monitors timing, trial for ignition, flame sensing & lockout • Microprocessor-based • Reverse polarity protection • 100% lockout safety feature • Compatible with LP or natural gas • Twinning compatible with another ICM2801 control • Status LED for fault codes to aid in troubleshooting	• Line voltage: 98-132 VAC @ 60 Hz • Ignitor: 5A, 120 VAC • Cool blower: 10A, 2 HP, 240 VAC • Heat: 5A, ½ HP, 250 VAC • Inducer blower: 4A, 120 VAC • Gas valve: 1A, 24 VAC	• York/Evcon: 7990-319P
	ICM2804 • Hot Surface Ignition (HSI) control board • Microprocessor-based • Controls vent motor and blower control • Monitors limit switch, pressure switch and gas valve • 100% lockout safety feature • Compatible with LP or natural gas • Status LED for fault codes to aid in troubleshooting	ENVIRONMENT • Ambient temperature • Operating: -40°F to 176°F • Storage: -40°F to 185°F • Humidity: 5% to 95% R.H. (non-condensing) @ 131°F • Vibration: 13.8Hz @ 0.2 Gs for one hour in each orthogonal axis ELECTRICAL • Voltage range: Line (98-132 VAC) @ 60 Hz • Cool blower: 20A, 2 HP, 240 VAC • Heat: 10A, 240 VAC • Inducer motor: 4A FLA, 8A LRA @ 120 VAC TIMING • Inducer pre-purge time: 1 second • Heat blower ON delay: 45 seconds • Heat blower OFF delays: 120 or 180 seconds • Cool blower ON delay: 1 seconds • Cool blower OFF delay: 1 seconds	• Carrier: CES0110074-00 and CES0110074-01 Note: This board functions identically as the CES0110074-00 and the CES0110074-01. It is a replacement of the CES0110074-01. When replacing the CES0110074-00 some quick connectors have to be changed or added. EAC-1 and EAC-2 must have 1/4" connectors. COM, SEC-1 and SEC-2 must have 3/16" connectors.
	ICM2805A • Controls gas valve, inducer draft motor, circulating blower and hot surface ignitor • Monitors timing, trial for ignition, flame sensing, lockout, plus pressure, rollout and limit switches. • Microprocessor-based precision • Twinning compatible with another ICM2805 furnace control • Diagnostic LEDs aid in testing and troubleshooting	• Voltage range: Line (98 to 132 VAC) @ 60 Hz • Ignitor: 5A, 120 VAC • Cool blower: 10A, 2HP, 240 VAC • Heat: 5A, ½ HP, 250 VAC • Inducer blower: 4A, 120 VAC • Gas valve: 1A, 24 VAC • Humidifier motor: 0.5A, 24 VAC • Electronic air cleaner: 1A, 120 VA	• Nordyne: 624631 (for use with G3, G4, G5, G6, M2 and M3 furnace modules)

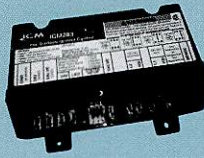
ICM Control	Features and Applications	Specifications	Replaces
	ICM2807 - Controls gas valve, ignitor, blower motor, inducer, humidifier and air cleaner - Microprocessor-based precision - Designed for 100% gas shutoff in case of ignition failure - Twinning compatible with another ICM2807 control - Reverse polarity protection - Secondary brownout voltage protection - Compatible with 24 VAC standard thermostat - Continuous blower speed jumper - Limit switch lockout time - Limit switch lockout after power interruption - Self diagnostics - Provides diagnostic LEDs to aid in troubleshooting	ENVIRONMENT Ambient temperature - Operating: -40°F to 176°F - Storage: -40°F to 185°F Humidity: 5% to 95% R.H. (non-condensing) @ 131°F ELECTRICAL Voltage range: Line (98 to 132 VAC) @ 60 Hz Ignitor: 5A @ 120 VAC Cool blower: 10 HP, 120 VAC Low heat: 5A, 1/2 HP, 120 VAC High heat: 10A, 1 HP, 120 VAC Inducer motor: 4A, FLA-8.0 LRA @ 120 VAC Gas valve: 1.5A @ 30 VAC EAC: 1A @ 120 VAC Humidifier: 0.5A & 24 VAC	Carrier: HK42FZ017
	ICM2808 - Controls gas valve, Ignitor, blower motor, Inducer, humidifier, and air cleaner. - Microprocessor-based precision - Designed for 100% gas shutoff in case of ignition failure - Twinning compatible with another ICM2808 control - Reverse polarity protection - Secondary brownout voltage protection - Compatible with 24 VAC standard thermostat - Provides dual-color diagnostic LED to aid in troubleshooting	ENVIRONMENT Ambient temperature - Operating: -40°F to 176°F - Storage: -40°F to 185°F Humidity: 5% to 95% R.H. (non-condensing) @ 131°F ELECTRICAL Voltage range: Line (98 to 132 VAC) @ 60 Hz Control voltage range: 18-30 VAC @ 60 Hz Relay outputs: Meets or exceeds O.E.M. board TIMING Heat blower ON delay: 30 seconds Heat blower OFF delay: 90-180 seconds	York: - S1-331-03010000 and S1-331-02956000 Note: Does not include bracket requested on some models, or wiring harness
	ICM2810 - Microprocessor-based precision - Controls inducer and blower fan motors, hot surface ignitor, and gas valve - Monitors timing, trial for ignition, flame sensing, pressure and limit switches, and lockout - Designed for 100% gas shutoff in case of ignition failure - Reverse polarity protection - Twinning compatible with another ICM2810 boards - Compatible with LP or natural gas - Diagnostic LED to aid in testing/troubleshooting	Pre-purge time: 15 seconds Ignitor warm up time: 18 seconds Post-purge time: 15 seconds Total trials for ignition: 3 (auto reset after 1 hour) Heat blower ON: 30 seconds Heat blower OFF: Selectable 90/120/150/180 seconds Fan (Heat) ON/OFF delay: 1 second Cool ON: 5 seconds Cool OFF: 45 seconds	Goodman: PCBBF136 and PCBBF140

Duty Cycle Timers

Duty Cycle Timers • Ideal for Defrost Applications

ICM Control	Features and Applications	Specifications	Replaces
	ICM305 (minutes), ICM306 (seconds) - Reliable duty cycle timer ideally suited for defrost applications - Suitable for process equipment or applications requiring intermittent delays - Switch-settable time delays - Digital timing accuracy - Reliable solid state output - Epoxy-encapsulated for greater reliability - On time starts at power up - Series: ICM305: Delay in minutes ICM306: Delay in seconds	Voltage: 18-240 VAC 1 amp 10 amp inrush Time delay: ICM305 Switch-settable from: 1-1,023 minutes in 1-minute intervals Time delay: ICM306 Switch-settable from: 1-1,023 seconds in 1-second intervals Dimensions: 2" x 3"	N/A

Gas Ignition Controls

ICM Control	Features and Applications	Specifications	Replaces
	ICM283 - Hot Surface Ignition (HSI) Module - Single/Dual rod sensing capabilities - For gas fired furnaces, boilers and other heating appliances - Switch selectable lockout times, ignition trials - Works with both Natural & LP gas systems - Diagnostic LED to aid in troubleshooting	Input voltage: 120 & 24 VAC, 60 Hz HSI: 120 VAC, 5A maximum Valve: 24V, 2A maximum Total: 24V Load = 0.4 + valve load Pre-purge time: 32 seconds Trial time: 4 or 7 seconds (switch selectable) Ignition trials to lockout: 1 or 3 (switch selectable) Flame sense: Single rod or dual rod Gas type: Natural or LP	Honeywell: S8910U-1000 Robertshaw: HS780 White Rodgers: 50E47, 50F47

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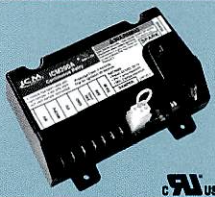
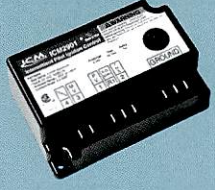
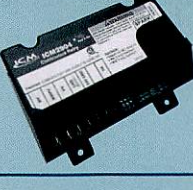
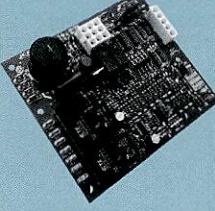
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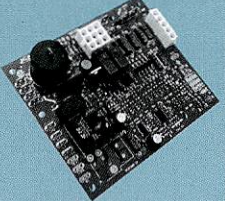
Application Assistance
800.365.5525

Customer Service Fax
315.233.5282

Phone
315.233.5266

ICM
CONTROLS

ICM Control	Features and Applications	Specifications	Replaces
	ICM290A - Universal intermittent pilot gas ignition control - Provides ignition sequence, flame monitoring and safety shutoff for single/dual rod intermittent pilot control applications - For gas fired furnaces, boilers & heating app. - Switch selectable pre-purge and ignition trial times with permanent lock - Works with both Natural & LP gas systems	Control voltage: Line 24V (18-30 VAC), 50/60 Hz Anticipator setting: 0.3A plus valve load @ 24 VAC Trial for ignition: 15 or 90 seconds (switch selectable) LEDs: Green status LED provides system status and error codes Yellow flame LED indicates flame presence & flame strength Operating temperatures: Min. ambient temperature rating of -40°F (-40°C) and max. of 176°F (75°C) Relative humidity: 0% to 95% non-condensing	Honeywell: S8610U3009 (and compatible Camstat, Fenwal, HSC, Penn-Johnson, Robertshaw and White Rodgers models)
	ICM295 - Spark Ignition Control Module - Microprocessor based - For use with intermittent pilot boilers, furnaces and other heating appliances - Continuous spark until pilot flame established - Push-on, high tension quick connect terminals - Compatible with LP or natural gas	Control voltage: Line 24 VAC (18-30 VAC) @ 50/60 Hz Prepurge: 0 or 10 seconds (system dependent) Retries: Continuous Operating temperature: -40°F to 176°F -40°C to 75°C Relative humidity: 0% to 95% non-condensing Spark frequency: 15Hz for 90 seconds, 10 Hz thereafter	Carrier: LH33WZ510
	ICM296 - Spark Ignition Control Module - Microprocessor based - For use with intermittent pilot boilers, furnaces and other heating appliances 100% safety lockout - Compatible with LP or natural gas	Control voltage: Line 24 VAC (18-30 VAC) @ 50/60 Hz Prepurge: None Lockout: 5-6 minutes Retries: None Operating temperature: -40°F to 176°F (-40°C to 75°C) Relative humidity: 0% to 95% non-condensing Relay contact rating: 1 amp @ 24 VAC Trail for ignition: 90 seconds Flame failure response time: 0.8 sec. max. Spark frequency: 60 Hz	Carrier: LH33WZ512A
	ICM2901 - For use with intermittent pilot boilers, furnaces and other heating appliances - Microprocessor-based precision - Monitors timing, trial for ignition, rollout switch, flame sensing and lockout - Remote flame sensing 100% lockout safety feature - Compatible with LP or natural gas	Control voltage: Line 24 VAC (18-30 VAC) 50/60 Hz Anticipator setting: 0.3A plus valve load @ 24 VAC Prepurge: None Trial for ignition: 85 seconds Flame failure response time: 0.5 seconds Retry: None Relative humidity: 0% - 95% non-condensing Operating temperature: - Min. ambient temperature rating is -40°F (-40°C) - Max. ambient rating when used with 2.0A main valve is 160°F (71°C) Relative humidity: 0% to 95% non-condensing	ICM: 294 Johnson Controls: G770RJA-1 York: 025-27762-700 and comparable ignition controls.
	ICM2902 - For use with intermittent pilot boilers, furnaces and other heating appliances - Microprocessor-based precision - Monitors timing, trial for ignition, flame sensing and lockout - Remote flame sensing 100% lockout safety feature - Compatible with LP or natural gas - Status LED for fault codes to aid in troubleshooting	Control voltage: Line 24 VAC (18-30 VAC) 50/60 Hz Anticipator setting: 0.3A plus valve load @ 24 VAC Prepurge: 15 seconds Trial for ignition: 60 minutes Lockout: 2 seconds Flame failure response time: 0.5 seconds Status LED: See product label for error codes Operating temperature: - Min. ambient temperature rating is -40°F (-40°C) - Max. ambient rating when used with 2.0A main valve is 160°F (71°C) Relative humidity: 0% to 95% non-condensing	ICM: 293 Johnson Controls: G776 (63K2401, 41K8701, 69J3601) ignition controls Lennox: 30W33 ignition control, Robertshaw: 735L (18G91) or 745 (95H04) ignit. controls
	ICM2904 - Intermittent pilot gas ignition control module - For use with intermittent pilot boilers, furnaces and other heating appliances - Microprocessor-based • Remote flame sensing - Compatible with LP or natural gas - Brown out monitoring circuit	Control Voltage: Line 18-30 VAC, 50/60 Hz Pilot Valve: 2A @ 24 VAC Main Gas valve: 2A @ 24 VAC Current draw: 100mA maximum Pre-purge delay: 0 seconds Operating temp.: -40°F to 167°F Humidity: 5%-95% R.H. (non-condensing) @ +55°C	Reznor: 257009
	ICM2905 - Intermittent pilot gas ignition control module - For use with intermittent pilot boilers, furnaces and other heating appliances - Microprocessor-based. Monitor timing, Trial for ignition, flame sensing & lockout - Remote flame sensing • 2 min. trial for ignition 60 min. lock out if pilot flame is not sensed in 2 min. - Compatible with LP or natural gas - Damper control input	Voltage: 18-30 VAC Frequency: 50/60 Hz Humidity: 5%-95% R.H. (non-condensing) @ +55°C Operating temp.: -40°F to 167°F Pilot valve: 2A @ 24 VAC Main gas valve: 2A @ 24 VAC Current draw: 100 mA maximum Pre-purge delay: 0 seconds Trial for ignition: 2 minutes Lock out time: 60 minutes	Reznor: 257010
	ICM2906 - Direct Spark Ignition (DSI) control board - Cooling and heating fan outputs - Microprocessor-based - Controls inducer & blower motor, air cleaner (if equipped), spark ignitor & gas valve - Monitors timing, trial for ignition, system switches, flame sensing and lockout - Compatible with LP or natural gas - LED indication for status and fault codes to aid in troubleshooting	Voltage: 18-30 VAC Frequency: 60 Hz Inducer blower type: Relay Rating: 1/6 HP @125 VAC Gas valves type: Relay Rating: 1A @ 24 VAC Heat blower type: Relay Rating: 1/4 HP @125 VAC Cool blower type: Relay Rating: 1 HP @125 VAC Operating Temp: -40°F to 165°F Dimensions: 14.5" x 5"	Reznor: 195573

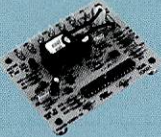
ICM Control	Features and Applications	Specifications	Replaces
	ICM2907 • Direct Spark Ignition (DSI) control board • Microprocessor-based • Controls inducer & blower motor, air cleaner (if equipped), spark ignitor & gas valve • Monitors timing, trial for ignition, system switches, flame sensing and lockout • Compatible with LP or natural gas • LED indication for status and fault codes to aid in troubleshooting	• Voltage: 18-30 VAC • Frequency: 60 Hz • Inducer blower type: Relay • Rating: 1/6 HP @125 VAC • Blower type: Relay • Rating: 1/4 HP @125 VAC • Gas valves type: Relay • Rating: 1A @ 24 VAC • Operating Temp: -40°F to 165°F • Dimensions: 14.5" x 5"	Reznor: 195265

Oil Burner Primaries

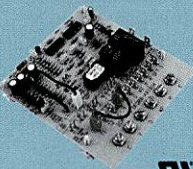
Intermittent Ignition			
ICM Controls	Application		
	ICM's 1500 Series Intermittent Ignition Oil Primary Controls come standard with patented energy transfer technology that ensures the fuel valve and pump will only be energized if the control is functioning properly. Features a solid state flame sensing circuit, LED to indicate system lockout, an enclosed safety switch and an external reset button. Form, fit and functional replacement for popular competitive models.		
Ordering Info	Safety Timing	Replaces	
ICM1501	15 seconds	Honeywell: R8184G4066, R8184G1161, R8184G1294	
ICM1502	30 seconds	Honeywell: R8184G4074, R8184G1179, R8184G1302, R8184G4033	
ICM1503	45 seconds	Carlin: 48245 Honeywell: R8184G4009, R8184G1138, R8184G1427, R8184G4025 Tempstar/Heil: 1147017 White-Rodgers: 668-401	

Defrost Controls

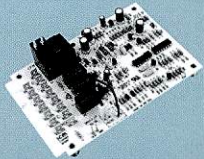
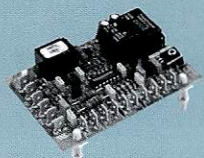
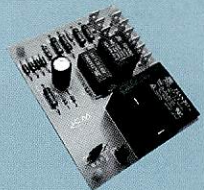
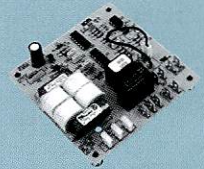
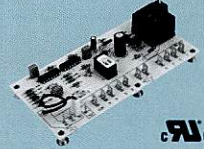
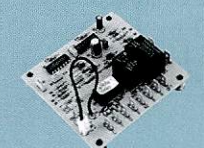
Duty Cycle Timers • Ideal for Defrost Applications

ICM Control	Features and Applications	Specifications	Replaces
	ICM300 • Replacement for OEM Type 621 • Low cost, time and temperature defrost • HOLD input tracks compressor run times • Time and temperature terminate • 10-minute fixed defrost time • Pin-selectable intervals: 30/60/90 minutes • Test pins reduce test time by 256x • Stable pin post construction	• Voltage: 18-30 VAC • Frequency: 50/60 Hz • Output: • Relay, SPST • N.O.: 1 amp • Defrost time: 10-minute fixed • Interval times: Pin-Sel. 30/60/90 min.	• Amana: C64301-1, C64310-1 • Arcoaire: 32312-00, 3232140 • Artesian: 10321-00 • Coleman: 3030A374 • Essex: 621-1 to 621-11, 621-310 • Goodman: B12260-06 • Heil Quaker: HQ1052757 • Honeywell: ST74A1004, ST74A1020, ST74A1038 • ICP: 1052757 • Intertherm: 6208800 • Lennox: 33G9501 • Rheem: 47-21776-01 • Robertshaw/Uni-Line: TD-10, DT2-1000 • Snyder General: 1395-329 • Steveco: 90-621 • Therm-O-Disc: 26E-10 • Weatherking (Addison): 840-4-5548 • White-Rodgers: 90-621
	ICM301 • Low cost, time and temperature defrost • Sensor input for defrost terminate • Time and temperature terminate • 10-minute fixed defrost time • Pin-selectable intervals: 30/60/90 minutes • Test pins reduce test time by 256x	• Voltage: 18-30 VAC • Frequency: 50/60 Hz • Output: • Type: Relay, SPST • N.O.: 1 amp • Defrost time: 10-minute fixed • Interval times: Pin-Sel. 30/60/90 min.	• Goettl: 305007 • ICM: DFOSP24A2 • Rheem: 47-21776-06

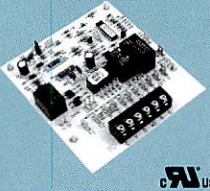
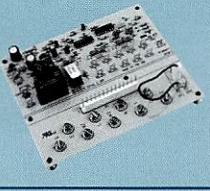
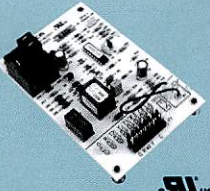
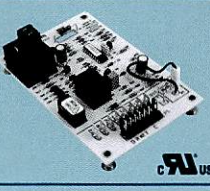
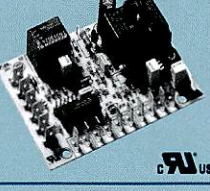
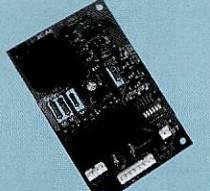
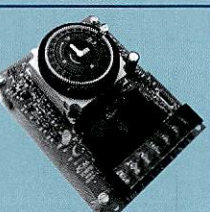
Form, Fit and Functional OEM Replacement Parts

ICM Control	Features and Applications	Specifications	Replaces
	ICM302 • Low cost, time and temperature defrost • Time and temperature terminate • 10-minute fixed defrost time • Pin-selectable intervals: 30/60/90 minutes • Test pins reduce test time by 256x • Strip heat, reversing valve outputs • High power output (1 HP fan @ 240 VAC) • Integral short cycle protection	• Voltage: 18-30 VAC • Frequency: 50/60 Hz • Output: • Type: Relay, SPST • N.O.: 1 amp • Anti-short cycle time: 5 minutes • Defrost time: 10-minute fixed • Interval times: Pin-Sel. 30/60/90 min.	• ICM: DFORB-AB1004 • Nordyne: 621301A, 621579B, 621579C, 917178

Form, Fit and Functional OEM Replacement Parts

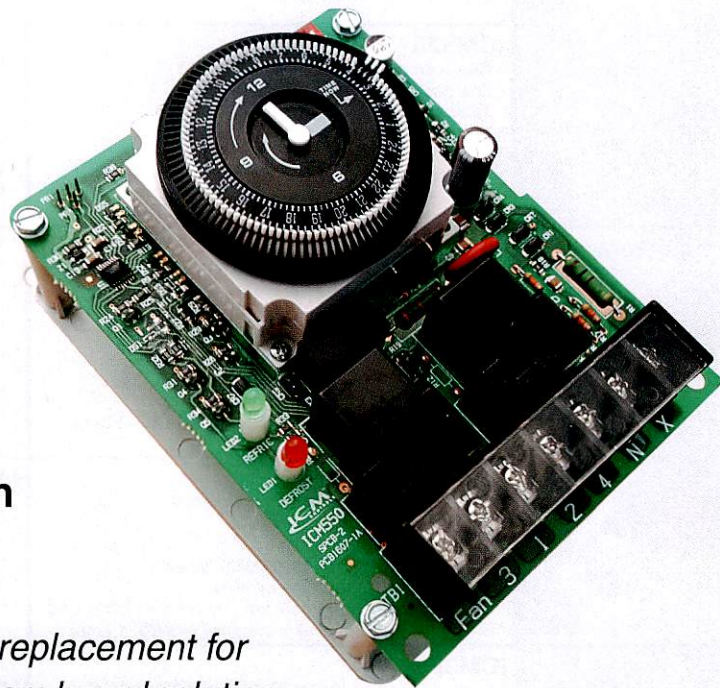
ICM Control	Features and Applications	Specifications	Replaces
	ICM303 - Replacement for York 03101251000 - Time and temperature terminate - Integral short cycle protection - Pin-selectable intervals: 30/60/90 minutes - High/low pressure switch monitoring - High power, condenser relay output - Strip heat, reversing valve outputs	Voltage: 18-30 VAC Frequency: 50/60 Hz Relay output: 1 HP fan @ 240 VAC Strip heat, reversing valve outputs: 24 VAC, 2 amps Defrost time: 10-minute fixed Interval times: Pin-Sel. 30/60/90 min.	- Evcon: 9218-374 - ICM: DFORF - York: 03101251000, 9218-3741
	ICM304 - Replacement for ICP 1069364 - Sensor input for defrost terminate - Time and temperature terminate 10-minute fixed defrost time - Pin-selectable intervals: 30/60/90 minutes - Y input tracks compressor run times - Integral short cycle protection - Cool active reversing valve (See ICM323 for heat active model)	Voltage: 18-30 VAC Frequency: 50/60 Hz Strip heat, reversing valve outputs: 24 VAC, 1 amp Defrost time: 10-minute fixed Interval times: Pin-Sel. 30/60/90 min.	ICP: 1069364
	ICM307 3-minute anti-short cycle protection - Low cost, time and temperature defrost - Time and temperature terminate 10-minute fixed defrost time - HOLD input tracks compressor run times - Pin-selectable intervals: 30/60/90 minutes - Test pins reduce test time by 256x	Voltage: 18-30 VAC Frequency: 50/60 Hz Output: - Type: Relay, SPST - N.O.: 1 amp Anti-short cycle time: 3 minutes Defrost time: 10-minute fixed Interval times: Pin-Sel. 30/60/90 min.	- Fast: 1093410 - Lennox: 86G16 - Ranco: DT2
	ICM314 - Time and temperature terminated defrost - Integral short cycle protection - High/low pressure switch monitoring - Pressure switch bypass - High power condenser fan relay output - Strip heat & reversing valve outputs - Anti-bang feature when entering and exiting defrost mode - User selectable compressor delay mode	Voltage: 18-30 VAC Frequency: 50/60 Hz Power: 4.8 VA Maximum (200 mA at 24 VAC) Output: O-RV - Type: Relay - Rating: 1 amp @ 24 VAC CNT - Type: Relay - Rating: 1 amp @ 24 VAC OFM - Type: Relay - Form: SPST N.C. - Rating: 15 amps @ 240 VAC Time Delays - Anti-Short Cycle Delay: 3 minutes - Defrost Time: Fixed at 12 minutes	Goodman: PCBDM-133
	ICM315 - Solid state replacement for Ranco E-15 - Reliable thermistor-type sensor is less susceptible to breakage, easier to mount - Replaces faulty bulb-type sensors 10-minute fixed defrost time - Pin-selectable intervals: 30/45/90 minutes - Test pins reduce test time by 256x - Stable pin post construction - Time and temperature terminate	Voltage: 24, 120, 240 VAC Frequency: 50/60 Hz Output: - Type: Relay, SPDT - N.O.: 20 amps - N.C.: 10 amps Defrost time: 10-minute fixed Interval times: Pin-Sel. 30/45/90 min.	- Avion: DFT100 - Ranco: E-15
	ICM316 - Replacement for Trane 21C142827G01 - Low cost, time and temperature defrost - Time and temperature terminate - Pin-selectable intervals: 50/70/90 minutes - Test pins reduce test time by 256x - High power output (1/2 HP fan @ 240 VAC) - Strip heat, reversing valve outputs (24 VAC, 1 amp)	Voltage: 18-30 VAC Frequency: 50/60 Hz Outdoor fan relay output: 1/2 HP fan @ 240 VAC Strip heat, reversing valve outputs: 24 VAC, 1 amp Defrost time: 10-minute fixed Interval times: Pin-Sel. 50/70/90 min.	Trane: 21C142827G01, CNT1152, CNT1642
	ICM317 - Anti-bang reversing valve feature - Select 0 or 3 minute anti-short cycle time - Time and temperature terminate 10-minute fixed defrost time - Test pins reduce test time by 256x - HOLD input tracks compressor run times	Voltage: 18-30 VAC Frequency: 50/60 Hz Output: - Type: Relay, SPST - N.O.: 1 amp Defrost time: 10-minute fixed Interval times: Pin-selectable 50/70/90 minutes	N/A
	ICM318 - Replacement for Goodman B1226008 - Low cost, time and temperature defrost - Time and temperature terminate - Pin-selectable intervals: 30/60/80 minutes - Test pins reduce test time by 256x - HOLD input tracks compressor run times - High power output (1/2 HP fan @ 240 VAC) - Strip heat, reversing valve outputs (24 VAC, 1 amp)	Voltage: 18-30 VAC Frequency: 50/60 Hz Outdoor fan relay output: 1/2 HP fan @ 240 VAC Strip heat, reversing valve outputs: 24 VAC, 1 amp Defrost time: 10-minute fixed Interval times: Pin-selectable 30/60/80 minutes	- Goodman: B1226008 - ICM: W1001-4

Form, Fit and Functional OEM Replacement Parts

ICM Control	Features and Applications	Specifications	Replaces
	ICM319 - Replacement for Nordyne: 624519A - Low cost, time and temperature defrost - Time and temperature terminate 10-minute fixed defrost time - Pin-selectable intervals: 30/60/90 minutes - Test pins reduce test time by 256x - Recycle function melts frost on coils - Integral short cycle protection	Voltage: 18-30 VAC Frequency: 50/60 Hz Outdoor fan relay output: 1/2 HP fan @ 240 VAC Strip heat, reversing valve outputs: 24 VAC, 1 amp Anti-short cycle time: 5 minutes Defrost time: 10-minute fixed Interval times: Pin-selectable 30/60/90 minutes	- ICM: DFORB24A2I300 - Nordyne: 624519A
	ICM320 - Replacement for Carrier HK32FA006 - Low cost, time and temperature defrost - Time and temperature terminate 10-minute fixed defrost time - Pin-selectable intervals: 30/50/90 minutes - Test pins reduce test time by 256x - Stable pin post construction	Voltage: 18-30 VAC Frequency: 50/60 Hz Outdoor fan relay output: 1/2 HP fan @ 240 VAC N.O.: 2 amps Form: SPST Defrost time: 10-minute fixed Interval times: Pin-selectable 30/50/90 minutes	Carrier: HK25SZ359/9A, HK32FA006
	ICM321 - Low cost, time and temperature defrost - Time and temperature terminate 10-minute fixed defrost time - Pin-selectable intervals: 30/50/90 minutes - Test pins reduce test time by 256x - High power output, outdoor fan (1/2 HP fan @ 240 VAC) - Strip heat, reversing valve outputs (24 VAC, 1 amp) - Integral short cycle protection	Voltage: 18-30 VAC Frequency: 50/60 Hz Outdoor fan relay output: - N.O.: 20 amps - N.C.: 10 amps Form: SPDT Anti-short cycle time: 5 minutes Defrost time: 10-minute fixed Interval times: Pin-selectable 30/50/90 minutes	Carrier: CES0110063-00, CES0110063-01, CES0110063-02, CES0110063-02A, CES0130024-01, 150-83-6A
	ICM322 - Low cost, time and temperature defrost - Time and temperature terminate 10-minute fixed defrost time - Pin-selectable intervals: 30/50/90 minutes - Test pins reduce test time by 256x - High power output, outdoor fan (1/2 HP fan @ 240 VAC) - Strip heat, reversing valve outputs (24 VAC, 1 amp)	Voltage: 18-30 VAC Frequency: 50/60 Hz Outdoor fan relay output: - N.O.: 20 amps - N.C.: 10 amps Defrost time: 10-minute fixed Interval times: Pin-selectable 30/50/90 minutes	Carrier: CES0130024-00
	ICM323 - Same as ICM304 but for heat active reversing valve - Sensor input for defrost terminate - Time and temperature terminate 10-minute fixed defrost time - Pin-selectable intervals: 30/60/90 minutes - Y input tracks compressor run times - Integral short cycle protection - Heat active reversing valve	Voltage: 18-30 VAC Frequency: 50/60 Hz Strip heat, reversing valve outputs: 24 VAC, 1 amp Defrost time: 10-minute fixed Interval times: Pin-selectable 30/60/90 minutes	ICP: Heat active (B) RV
	ICM324 - Time and temperature terminate 3 or 5 minute selectable ASC delay - Pin selectable defrost intervals: 30/60/90 minutes 10 minute fixed defrost time - High/low pressure switch monitoring - Strip heat and reversing valve outputs - Test pins reduce test time by 256x	Voltage: 18-30 VAC Frequency: 50-60 Hz Power Consumption: 1 watt maximum CC, Aux. Heat, RVS - Type: Relay - Form: SPST, N.O. - Rating: 2 amps @ 24 VAC IDF, ODF - Type: Relay - Form: SPST, N.C. - Rating: 10 amps @ 240 VAC	Goettl: 305057
	ICM350 - Adjustable 30, 60, 90, & 120 minute timing sequences - Speedup jumper for quicker testing and troubleshooting - Brownout monitoring - Microcontroller precision timing - Time and temperature termination - Quiet Shift: Reduces noise disturbance when entering & exiting the defrost sequence 5-min. anti short cycle delay - Optional random start timer	Voltage: 18-30 VAC Frequency: 50/60 Hz Power consumption: 1 watt max. Current draw: 300 mA maximum Max. defrost sequence: 10 minutes	Carrier: HK32EA001, HK32EA003, HK32EA008 and comparable defrost control boards
	ICM550 - Adjustable 15 minutes to 23 hours 45 minutes defrost cycle - Time or manual defrost termination - High power condenser fan and defrost heater relay output 100% monitoring of defrost inputs and outputs	Electrical Rating: Voltage: 120-240 VAC Frequency: 60 Hz Fan: Type: Relay Form: SPST, normally closed Rating: 30 amps @ 240 VAC Time Delays Minimum defrost time: 15 minutes Maximum defrost time: 23 hr, 45 min.	- Grasslin: 010-0011B - Intermatic: DTAV40

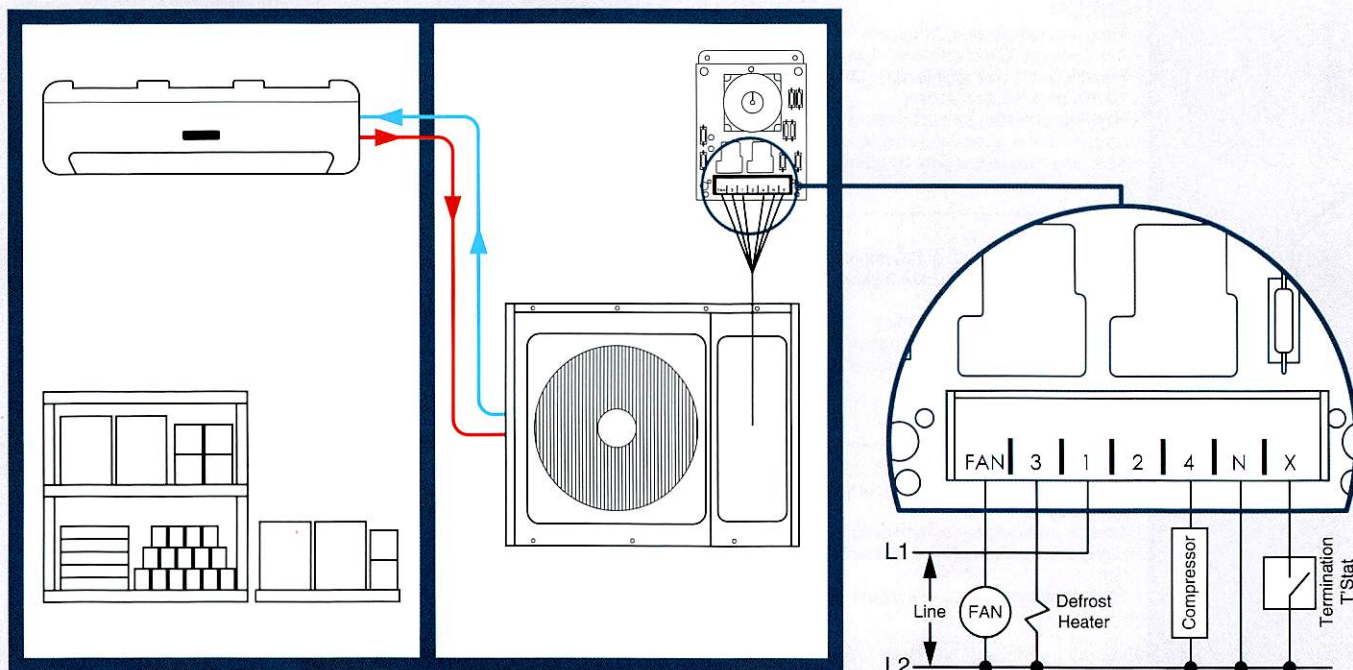
Increase refrigerant system efficiency by evading massive ice blankets on evaporator coils!

The ICM550 reduces the need for excess defrost cycles in refrigerating applications, specifically applicable to walk-in coolers/ commercial freezers.



Why does this matter? The increased efficiency presents the opportunity for a decrease in utility costs.

An elegant, simple to use, drag & drop replacement for popular defrost timers, the ICM550 is a bare board solution with the simple, user-friendly time clock for commercial refrigerant cooler applications.



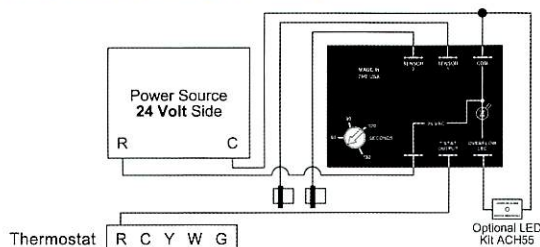
Prevent Overflowing of an Evaporator Condensation Pan

APPLICATION

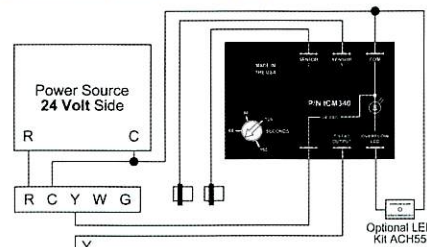
ICM's condensate control systems protect your cooling and refrigeration equipment by detecting and preventing overflows in the evaporator condensation pan due to slow and/or blocked drains or pump failure. These reliable, low cost controls come with fixed or adjustable delays to eliminate nuisance trips and lockouts. Use in conjunction with our audible alarm to quickly alert you to an ensuing condensate problem.

ICM340 Wiring Diagrams

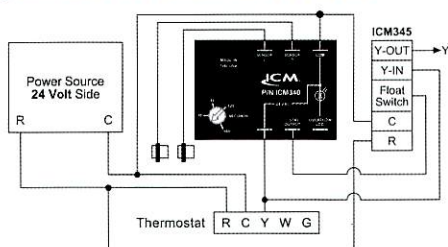
Wiring Diagram Breaking "R" Wire



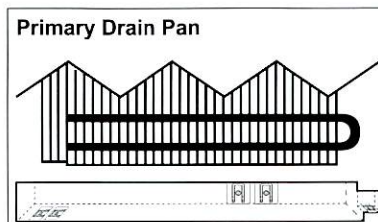
Wiring Diagram Breaking "Y" Wire

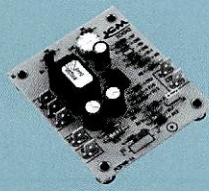


Wiring Diagram ICM340 with ICM345 Alarm



Application Sensors can be clipped to or pressed onto side, adhered to bottom of pan or inserted into drain pipe.



ICM Control	Features and Applications	Specifications	Replaces
	ICM340 - Low cost condensation control used to prevent overflowing of an evaporator drain pan - Two sensors for water detection - Adjustable delay before break time to prevent nuisance trips - Optional overflow LED kit	Voltage: 18-30 VAC Output: 24 VAC to thermostat/cooling control 24 VAC to optional overflow LED Output rating: 2 amps Delay before trip: 1-3 minutes Operating frequency: 50/60 Hz Maximum operating/storage relative humidity: 95% non-condensing Storage temperature: -40°C to +85°C Quick connects: (1/4 inch) for easy hookup Provides: Maximum protection against moisture and allows use in extreme environmental conditions	Water Guard: 401475
	ICM342 - Low cost condensation sensing control with an integral delay on make timer - Condensation sensing for overflow protection - Alarm output during lockout - Custom delay on make available (fixed or adjustable) - Conformal coating for moisture protection	Voltage: 18-30 VAC Frequency: 50/60 Hz Output: Type: Relay N.O.: 10 amps @ 120 VAC N.C.: 10 amps @ 120 VAC Time delay: DOM - Custom delay available, fixed or adjustable Dimensions: 2.75" x 3.25"	N/A
	ICM345 - Low cost condensation sensing control with anti-short cycle delay and audible/visual condensation alarm - Condensation sensing for overflow protection - Audible and visual alarm when condensation is detected - ASC protection for compressor - Works in conjunction with any thermostat or existing condensation control - Elegant design	Voltage: 18-30 VAC Frequency: 50/60 Hz Output: Type: Relay N.O.: 1 amp @ 30 VAC Audible: Buzzer Visual: LED Indicator Time delay: Anti-short cycle: 5-minute fixed Dimensions: 4 1/2" x 2 3/4" x 7/8"	N/A
	ACH55 - Optional overflow alarm LED kit - For use with ICM340 or ICM342	Length: 70" Weight: 0.1 lbs.	N/A

Head Pressure/Low Ambient Fan Controls

ICM Control	Features and Applications	Specifications	Replaces
  	ICM325HN (120-480 VAC) ICM325HNV (600 VAC) 120-480 VAC - Integral heat pump bypass circuitry allows electronic bypass of speed control - Eliminates overshoots common to on/off and pressure switch controls - Helps prevent evaporator freeze-ups, low pressure cut outs and liquid-slugged compressors in low ambient conditions - Hard start, low temperature cutoff, isolated 24 VAC supply - Controls up to 3 refrigerant circuits - Typical application: A/C and heat pumps	Input: - Control: 18-30 VAC - Frequency: 50/60 Hz, 1.8 VA max. - Line input: 120-480 VAC (ICM325HN) 600 VAC (ICM325HNV) Output: - Maximum: 10 amps - Minimum: 100 mA - Modulation: 70°F to 100°F Dimensions: 4.5" x 3" x 1.75"	ACT: FM2000 Hoffman: 800, 800A, 800AA, 814-50, 816-10 Ranco: E31 Series
  	ICM326HN (120 or 208/240 VAC) - Integral heat pump bypass circuitry allows electronic bypass of speed control - Built in transformer eliminates cost, reduces installation time and simplifies wiring - Helps prevent evaporator freeze-ups, low pressure cut outs and liquid-slugged compressors in low ambient conditions - Hard start, low temperature cutoff, high temperature bypass - Ideal for line voltage air conditioning and refrigeration	Input: - Control: 120 or 208/240 VAC - Frequency: 50/60 Hz Output: - Maximum: 10 amps - Minimum: 100 mA - Modulation: 70°F to 100°F Dimensions: 4.5" x 3" x 2"	ACT: FM4000 Hoffman: 800, 800A, 800AA, 814-50, 816-10 Ranco: E31 Series
  	ICM327HN (480 VAC) - Integral heat pump bypass circuitry allows electronic bypass of speed control - Built in transformer eliminates cost, reduces installation time and simplifies wiring - Helps prevent evaporator freeze-ups, low pressure cut outs and liquid-slugged compressors in low ambient conditions - Hard start, low temperature cutoff, high temperature bypass - Ideal for line voltage air conditioning and refrigeration	Input: - Control: 480 VAC - Frequency: 50/60 Hz Output: - Maximum: 10 amps - Minimum: 100 mA - Modulation: 70°F to 100°F Dimensions: 4.5" x 3" x 2"	ACT: FM4000 Hoffman: 800, 800A, 800AA, 814-50, 816-10 Ranco: E31
  	ICM330 (120-480 VAC) - Pressure or temperature control - Integral heat pump bypass circuitry allows electronic bypass of speed control and eliminates overshoots common to on/off and pressure switch controls - Helps prevent evaporator freeze-ups, low pressure cut outs and liquid-slugged compressors in low ambient conditions - One model covers 120-480 VAC - Hard start, low temperature bypass, isolated 24 VAC supply - Controls one refrigerant circuit - Typical application: A/C and heat pumps + DIN rail mount	Input: - Control: 18-30 VAC - Frequency: 50/60 Hz, 1.8 VA max. - Line input: 120-480 VAC Output: - Maximum: 4 amps - Minimum: 100 mA - Modulation: 70°F to 100°F 35-465 psi set point Opt. pressure transducer: ICM380 Dimensions: 4.5" x 3" x 1.75"	Johnson Controls: P66AAB/AAD
  	ICM333 (120-600 VAC) - Support for dual temperature OR dual pressure probes 120-600 VAC - Integral heat pump bypass circuitry allows for electronic bypass of speed control - Dial temperature or pressure setpoint: 70°F to 140°F 35-465 psig - Helps prevent evaporator freeze-ups, low pressure cut outs and liquid slugged compressors in low ambient conditions - Hard start, low temperature cutoff, high temp bypass - Ideal for line voltage air conditioning and refrigeration	Line voltage: 120, 208, 240, 277, 480 and 600 VAC Control voltage: 18-30 VAC Frequency: 50/60 Hz Operating temp.: -40°F to +176°F Probes: - Temp.: Thermistor, 10K ohm at 77°F - Pressure: ICM380 (ordered separately) Heat pump override: 24 VAC, N.C./N.O. Mounting: Surface mount using (2) #8 screws	Johnson Controls: P66BAB/BAD
  	ICM334 (208-600 VAC) - One temperature and two pressure inputs - Integral heat pump bypass circuitry - Allows you to electronically bypass the speed control during heat pump operations - Solid start 10 amp load carrying capability - Hard Start - 10 second hard start 208-600 VAC - High temperature bypass - Applies full voltage to the motor under normal conditions 3-phase ON/OFF control	Line voltage: 208-600 VAC Control voltage: 18-30 VAC Frequency: 50/60 Hz Operating temp.: -40°F to +140°F Probes: - Temp.: Thermistor, 10K ohm at 77°F - Pressure: ICM380 (ordered separately) Heat pump override: 24 VAC, N.C./N.O. Mounting: Surface mount using (2) #8 screws	N/A

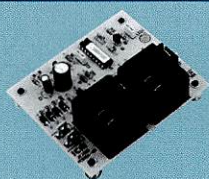
Head Pressure/Accessories

ICM Control	Features and Applications	Specifications	Replaces
	ACC-OE-03 (Outdoor Enclosure) - Rugged steel construction - Easy to mount - Helps to protect controls from harsh environmental conditions such as temperature, shock, humidity and vibration - Ideal for use with ICM head pressure controls	NEMA 3R rated • Dimensions: 4.25" x 6.25" x 6.25"	N/A
	ICM379 Probe Probe for use with ICM325HN, ICM326HN, ICM327HN and ICM330/ICM332/ICM333 head pressure controls with optional heat pump bypass feature	• Length: 6' - 7" • 70°F to 100°F (21°C to 38°C)	N/A
	ICM380 Optional pressure transducer for ICM330/ICM332/ICM333 single phase head pressure controls	• Length: 72" • 0-500 psi • 1/4" SAE female flare with Schraeder deflator	N/A

Lead-Lag Controls

ICM lead lag controls offer true, dual-stage control to balance the operating run time between two redundant units. They feature built-in short cycle protection and status LED lights for at a glance diagnostics. Ideal for use in conjunction with telephone relay hubs/substations and/or remote, unmanned computer stations.

Reliable Long Life Switching

ICM Control	Features and Applications	Specifications	Replaces
	ICM600 - True dual stage control - Built in Tstat with a setpoint, deadband and sequencer - Regulates 1 or 2 H/C systems - Compact housing - Safety system halon contacts - Memory on power loss - Accelerated test mode - Isolated inputs - Isolated solid state outputs - Built in ASC delays - Status LEDs - Advance state switch - Ideal for refrigeration applications, communication substations, water treatment plants anywhere redundant systems are used	• Voltage: 18-30 VAC • Frequency: 50/60 Hz • Maximum amps: 2 amps • Power consumption: 2 watts maximum • Adjustable thermostat features: Set point: 55°F to 90°F (adjustable) Deadband: 2°F to 20° (adjustable) Sequencer: 1-28 days (adjustable) • Dimensions: 4.25" x 8.5" x 2"	N/A
	ICM602 - Low cost, open board lead lag control - Regulates two single stage devices - Reliable, long life switching - Status LEDs - Ideal for refrigeration applications	• Voltage: 18-30 VAC (24 VAC) • Frequency: 50/60 Hz • Maximum amps: 2 amps • Power consumption: 2 watts maximum • Dimensions: 3" x 3.5"	N/A

Thermostats

- Programmable & non-programmable
- A model for every situation
- Wi-Fi & humidity control models
- Managed Property thermostats
- Large displays
- Simple installation
- Available with a custom logo



i3 Series**Base Models**

i1010R: 1-stage heat/cool, 7-day programmable, dual powered
i2010R: 2-stage heat/1-stage cool, 7-day programmable, dual powered
i2020R: 2-stage heat/2-stage cool, 7-day programmable, dual powered
i3020R: 3-stage heat/2-stage cool, 7-day programmable, dual powered

Wi-Fi Models

i1010WR: 1-stage heat/cool, 7-day programmable, hardwired
i2010WR: 2-stage heat/1-stage cool, 7-day programmable, hardwired
i2020WR: 2-stage heat/2-stage cool, 7-day programmable, hardwired
i3020WR: 3-stage heat/2-stage cool, 7-day programmable, hardwired

Humidity Control Models

i1010HR: 1-stage heat/cool, 7-day programmable, dual powered
i2010HR: 2-stage heat/1-stage cool, 7-day programmable, dual powered
i2020HR: 2-stage heat/2-stage cool, 7-day programmable, dual powered

Wi-Fi + Humidity Control Models

i1010WHR: 1-stage heat/cool, 7-day programmable, hardwired
i2010WHR: 2-stage heat/1-stage cool, 7-day programmable, hardwired
i2020WHR: 2-stage heat/2-stage cool, 7-day programmable, hardwired

Simple Comfort® Non-Programmable**Heat Only Thermostats**

SC1600L: 1-stage heat, battery, no fan output
SC1600VL: 1-stage heat, battery, no fan output, vertical
SC1800L: 1-stage heat, battery
SC1800VL: 1-stage heat, battery, vertical

Cool Only Thermostats

SC1901L: 1-stage cool, hardwired
SC1901VL: 1-stage cool, hardwired, vertical

Heat/Cool Thermostats

SC1001: 1-stage heat/cool, analog
SC1001V: 1-stage heat/cool, analog, vertical
SC2000L: 1-stage heat/cool, backlit display, battery
SC2000VL: 1-stage heat/cool, backlit display, battery, vertical
SC2001L: 1-stage heat/cool, backlit display, hardwired
SC2001VL: 1-stage heat/cool, backlit display, hardwired, vertical
SC2010L: 1-stage heat/cool, backlit display, dual powered
SC4010: 1-stage heat/cool, auto changeover, dual powered, PRO series
SC4011: 1-stage heat/cool, auto changeover, hardwired, PRO series

Heat Pump Only Thermostats

SC2201L: 2-stage heat/1-stage cool, backlit display, hardwired
SC2201VL: 2-stage heat/1-stage cool, backlit display, hardwired, vertical
SC2211L: 3-stage heat/2-stage cool, backlit display, hardwired
SC4211: 2-stage heat pump, auto changeover, hardwired, PRO series

Multi-Stage Thermostats

SC2311L: 2-stage heat, 1-stage cool, hardwired
SC4811: 2-stage heat/cool, auto changeover, hardwired, PRO series
SC4812: 3-stage heat, 2-stage cool, auto changeover, hardwired, dual fuel compatible, PRO series
SC4813: 3-stage heat, 2-stage cool, auto changeover, hardwired, PRO series

Simple Comfort® Programmable**Heat/Cool Thermostats**

SC3000L: 1-stage heat/cool, battery
SC3001L: 1-stage heat/cool, hardwired
SC3010L: 1-stage heat/cool, dual powered
SC5010: 1-stage heat/cool, auto changeover, dual powered, PRO series
SC5011: 1-stage heat/cool, auto changeover, hardwired, PRO series

Heat Pump Only Thermostats

SC3211L: 2-stage heat pump, hardwired,
SC5211: 2-stage heat pump, auto changeover, hardwired, PRO series

Multi-Stage Thermostats

SC5811: 2-stage heat/cool, auto changeover, hardwired, PRO series
SC5812: 3-stage heat, 2-stage cool, auto changeover, hardwired, dual fuel compatible, PRO series
SC5813: 3-stage heat, 2-stage cool, auto changeover, hardwired, PRO series

Fan Coil

SC700V: 4-pipe heat/cool, 3-speed fan, auto changeover
SC710V: 4-pipe heat/cool, 3-speed fan, manual changeover
SC900V: 2 or 4-pipe, 3-speed fan, auto or manual changeover

Managed Property**Non-Programmable**

MP2010L: 1-stage heat/cool, one-time configurable, dual powered
MP2211L: 3-stage heat/2-stage cool, HP only, one-time configurable, hardwired
MP4010: 1-stage heat/cool, one-time configurable, auto changeover, dual powered
MP4211: 2-stage HP only, one-time configurable, auto changeover, hardwired

Programmable

MP5010: 1-stage heat/cool, one-time configurable, 7-day/5-2-day or 5-1-1-day programmable, auto changeover, dual powered
MP5211: 2-stage HP only, one-time configurable, 7-day/5-2-day or 5-1-1-day programmable, auto changeover, hardwired

Garage

FS40: Frost Sentry™, 40°F fixed, no display, hardwired
FS1500L: Frost Sentry™, 35°F-75°F, heat only, battery
FS1500VL: Frost Sentry™, 35°F-75°F, heat only, battery, vertical

Temporary Construction

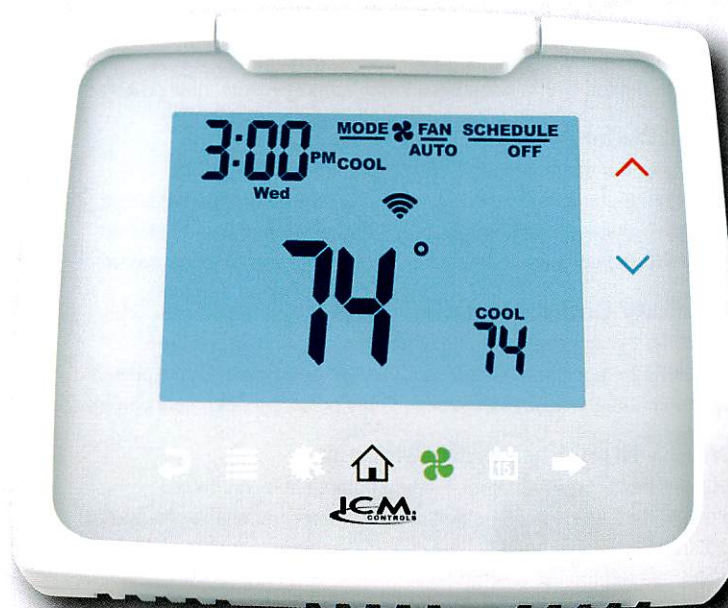
ACH045: Cool only, 45°F fixed
ACH055: Cool only, 55°F fixed
ACH060: Heat only, 60°F fixed
ACH065: Heat only, 65°F fixed
ACH070: Heat only, 70°F fixed
ACH075: Cool only, 75°F fixed
ACH085: Cool only, 85°F fixed

Accessories

ACC-OD103: Outdoor sensor for SC4812 and SC5812 thermostats
ACC-RT103: Remote Sensor for PRO Series (except SC4010 and SC5010 series)
ACC-RT104: Remote Sensor for SC1000/SC2000/SC3000 series, PRO series dual power (SC4010, SC5010) and i3 series
ACC-WIH21: SimpleSet™ Master-to-Target Cable PRO Series
ACC-WP03: Large, universal insulated wall plate
ACC-WP04: Small, universal insulated wall plate

Through innovation, comes affordability!

Designed around capacitive touch sensing technology, the new and innovative i3 Series Touch Thermostats from ICM Controls feature huge displays and a patent-pending dynamic interface for intuitive programming that uses familiar icons that illuminate only when they are needed.

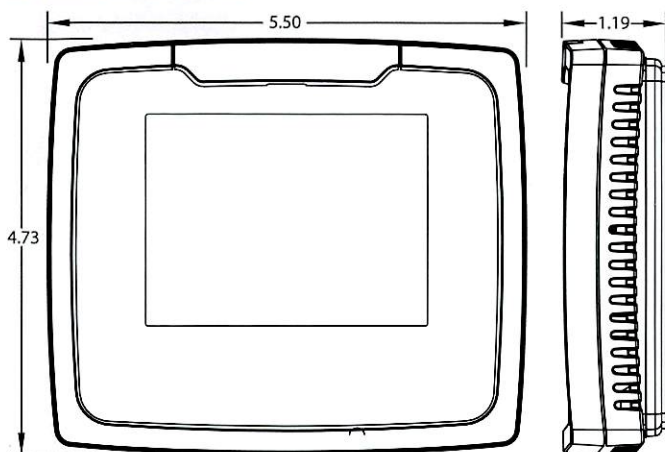


Features:

- **Alexa 5.0 Compatible** – The Wi-Fi i3 is compatible and can communicate with your Alexa!
- **Large Display** – The touch icons are positioned away from the display for a larger viewing area; keeps display clean of fingerprints
- **Button/Switch Free Front** – No mechanical buttons or switches to break or wear
- **Dynamic Interface** – Highly intuitive – patent-pending! Icons illuminate ONLY when they are needed
- **Customized Printed Interface** – Color and plastic can be customized
- **Customized Icons** – Uses branded icons, or those found on most cell phones, in any desired backlit color

- **Humidity Control** – Humidity Control models available
- **Positioning** – Thin profile ideal for either “internal” or “wall mount” applications
- **Mounting Base** – Designed with sub base to make installation a “snap”
- **Removable Logo Plate** – Great for customers to promote their business
- **Wi-Fi** – Wi-Fi compatible models available with user friendly connectivity
- **Thermal Safety** – Excessive heating bi-metal safety switch
- **User Coded Lockout** – Designed with renters and children in mind

Dimensions



Specifications:

- 6 (1A) relay outputs
- 7-Day, 5-2-Day, or 5-1-1 day programmable
- Configurable for multiple systems
- Large display with backlight
- Selectable Fahrenheit or Celsius
- Icon indicator lights
- Relay outputs – minimum voltage drop in thermostat
- Remote sensor compatible
- Ideally suited for:
 - Residential (new construction/replacement)
 - Light commercial
- Works with two-transformer systems

Typical Applications:

- Temperature controls in residential and commercial buildings
- Appliances such as heating, air conditioning, and refrigeration equipment including commercial freezers

i3 Standard Thermostats

P/N	PROGRAM	STAGES	HP	POWER	WI-FI	HUMIDITY	TERMINATIONS
i1010R	7-Day	1H/1C	Y	Dual	N	N	RC, RH, C, W1/O/B, Y1, G, S1, S2, SC
i2010R	7-Day	2H/1C	Y	Dual	N	N	RC, RH, C, W1/O/B, W2, Y1, Y2, G, S1, S2, SC
i2020R	7-Day	2H/2C	Y	Dual	N	N	RC, RH, C, W1/O/B, W2, Y1, Y2, G, S1, S2, SC
i3020R	7-Day	3H/2C	Y	Dual	N	N	RC, RH, C, W1/O/B, W2, AUX, Y1, Y2, G, S1, S2, SC

i3 Wi-Fi Thermostats

P/N	PROGRAM	STAGES	HP	POWER	WI-FI	HUMIDITY	TERMINATIONS
i1010WR	7-Day	1H/1C	Y	Hardwired	Y	N	RC, RH, C, W1/O/B, Y1, G, S1, S2, SC
i2010WR	7-Day	2H/1C	Y	Hardwired	Y	N	RC, RH, C, W1/O/B, W2, Y1, G, S1, S2, SC
i2020WR	7-Day	2H/2C	Y	Hardwired	Y	N	RC, RH, C, W1/O/B, W2, Y1, Y2, G, S1, S2, SC
i3020WR	7-Day	3H/2C	Y	Hardwired	Y	N	RC, RH, C, W1/O/B, W2, AUX, Y1, Y2, G, S1, S2, SC

i3 Humidity Control Thermostats

P/N	PROGRAM	STAGES	HP	POWER	WI-FI	HUMIDITY	TERMINATIONS
i1010HR	7-Day	1H/1C	Y	Dual	N	Y	RC, RH, C, W1/O/B, AUX, Y1, G, S1, S2, SC
i2010HR	7-Day	2H/1C	Y	Dual	N	Y	RC, RH, C, W1/O/B, W2, AUX, Y1, G, S1, S2, SC
i2020HR	7-Day	2H/2C	Y	Dual	N	Y	RC, RH, C, W1/O/B, W2, AUX, Y1, Y2, G, S1, S2, SC

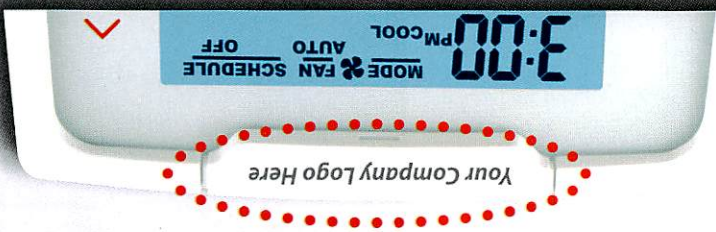
i3 Wi-Fi & Humidity Control Thermostats

P/N	PROGRAM	STAGES	HP	POWER	WI-FI	HUMIDITY	TERMINATIONS
i1010WHR	7-Day	1H/1C	Y	Hardwired	Y	Y	RC, RH, C, W1/O/B, AUX, Y1, G, S1, S2, SC
i2010WHR	7-Day	2H/1C	Y	Hardwired	Y	Y	RC, RH, C, W1/O/B, W2, AUX, Y1, G, S1, S2, SC
i2020WHR	7-Day	2H/2C	Y	Hardwired	Y	Y	RC, RH, C, W1/O/B, W2, AUX, Y1, Y2, G, S1, S2, SC

* Includes AUX output that is software configurable for humidification or dehumidification applications.

Customize your i3 thermostat!

- Add your company name and/or phone number to the removable tab on top of the thermostat or leave it blank.
- Logo is laser engraved directly into the tab so it will never fade, wash off, rub off or peel off. Logo will be 50% grey.
- Maximum custom logo area is 1.75" x .25".



**CUSTOM
Logo Program**

Order 24 thermostats and put your contact information on the cover for **FREE!**



ICM CONTROLS
Made in the USA
800-365-5526

Smart Climate Control

76°F

F 76

Contact your local ICM CONTROLS distributor to learn more.

Thermostat Model Number

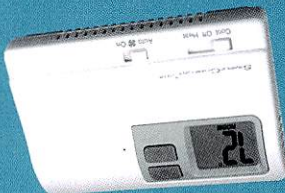
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SimpleComfort® PRO Series



Non Programmable										
SC4010	●	●		●	●	●				
SC4011	●	●			●	●			●	●
SC4211	●	●				●			●	●
SC4811	●	●		●	●	●			●	●
SC4812	●	●		●	●	●	●			●
7 Day Programmable										
SC5010	●	●	●	●	●				●	●
SC5011	●	●		●	●	●			●	●
SC5211	●	●			●				●	●
SC5811	●	●		●	●	●			●	●
SC5812	●	●		●	●	●	●			●
SC5813	●	●		●	●	●	●			●

SimpleComfort® Standard Series



Non Programmable									
SC1600L	●		●					●	
SC1800L	●		●					●	
SC1901L	●		●					●	
SC2000L	●		●	●	●			●	
SC2001L	●		●	●	●			●	
SC2010L	●	●	●	●	●			●	●
SC2201L	●				●		●		
SC2211L	●	●			●	●		●	
SC2311L	●	●		●	●		●		●
SC3000L	●		●	●	●			●	●
SC3001L	●	●		●	●			●	●
SC3010L	●	●	●	●	●			●	●
SC3211L	●	●			●		●		●

All features and specifications subject to change without notice.

Phone 315.233.5266

Customer Service Fax
315.233.5282

Application Assistance
800.365.5525

Visit www.icmcontrols.com to find all of our latest products, sell sheets and wiring diagrams

The logo for ICW Controls, featuring the letters "ICW" in a large, bold, sans-serif font, with "CONTROLS" in a smaller font above it. A stylized swoosh or arc is positioned above the text.

Thermostat Features

Thermostat Model Number

*A thermostat for
every situation*

Terminations

	Dual Fuel	Backlit	Remote Sensor	Permanent Memory	Field Temperature Calibration	Maximum Heat Setpoint	Minimum Cool Setpoint	Adjustable Temperature Differential for Each Stage	Freeze Protection	High Temperature Protection	Programmable Fan	Temporary Override	Keypad Lockout	Millivolt Compatible	4 or 5 wire	Status LEDs	Comfort/Energy Savings Mode	Vertical Model Available	
SC5813		●	●	●	●	●	●	●			●	●	●		●	●	●		R, C, W1/O/B, Y1, W2, Y2, G, W3, S1, S2
SC5812	●	●	●	●	●	●	●	●			●	●	●		●	●	●		R, C, W1/O/B, Y1, W2, Y2, G, W3, S1, S2
SC5811		●	●	●	●	●	●	●			●	●	●		●	●	●		R, C, W1/O/B, Y1, W2, Y2, G, S1, S2
SC5211		●	●	●	●	●	●	●			●	●	●			●	●		R, C, Y1, Y2, W2, O/B, G, E, L, S1, S2
SC5011		●	●	●	●	●	●	●			●	●	●		●	●			RC, RH, C, W/O/B, Y, G, S1, S2
SC5010		●	●	●	●	●	●	●	●	●	●	●	●		●	●			RC, RH, C, W/O/B, Y, G, S1, S2
SC4812	●	●	●	●	●	●	●	●					●		●	●	●		R, C, W1/O/B, Y1, W2, Y2, G, W3, S1, S2
SC4811		●	●	●	●	●	●	●					●		●	●	●		R, C, W1/O/B, Y1, W2, Y2, G, S1, S2
SC4211		●	●	●	●	●	●	●					●			●	●		R, C, Y1, Y2, W2, O/B, G, E, L, S1, S2
SC4011		●	●	●	●	●	●	●					●		●	●			RC, RH, C, W/O/B, Y, G, S1, S2
SC4010		●	●	●	●	●	●	●	●	●			●		●	●			RC, RH, C, W/O/B, Y, G, S1, S2
SC3211L		●		●	●	●	●	●				●	●			●	●		R, C, Y1, Y2, W2, O, B, G, E, L
SC3010L		●		●	●	●	●	●	●	●		●	●		●				RC, RH, C, W, Y, O, B, G
SC3001L		●		●	●	●	●	●				●	●		●				RC, RH, C, W, Y, O, B, G
SC3000L		●		●	●	●	●	●	●	●		●	●	●	●				RC, RH, W, Y, O, B, G
SC2311L		●		●	●	●	●	●				●			●	●	●		R, C, W1/O/B, Y, W2, E, G
SC2211L		●		●	●	●	●	●				●				●	●		R, C, Y1, Y2, W2, O, B, G, E, L, W3
SC2201L		●														●			R, C, Y1, W2, O, B, G, E
SC2010L		●		●	●	●	●	●	●	●		●			●				RC, RH, C, W, Y, O, B, G
SC2001L		●						●	●	●					●			●	R, C, W, Y, O, B, G
SC2000L		●						●	●	●				●	●			●	RC, RH, W, Y, O, B, G
SC1901L		●	●					●										●	R, C, Y, G, S1, S2
C1800L		●	●					●	●	●				●				●	R, W, G, S1, S2
SC1600L		●	●					●	●	●				●				●	R, W, S1, S2

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ICM
CONTROLS®

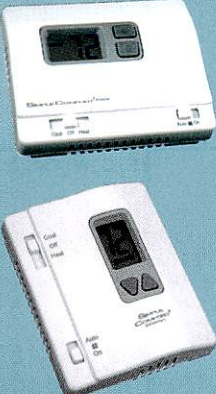
Simple to install. Simple to operate. Simply dependable.

SimpleComfort® means simple control for year-round comfort and energy savings. These elegantly designed thermostats are extra rugged, highly reliable and accurate — ready for many years of worry-free operation. Simply perfect for residential or light commercial new construction or replacement. Easy, intuitive operation makes it simple to match temperature to any family's lifestyle. And with exclusive **SimpleComfort®** staging control, you can easily configure for optimum energy savings — or extra comfort.

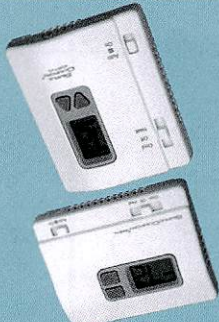
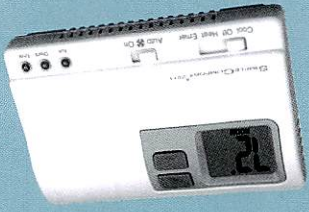
SimpleComfort® thermostats feature:

- Vertical or horizontal mounting options (model dependent)
- Large display
- Precise temperature sensing
- Accuracy: $\pm 1^{\circ}\text{F}$
- Easy access terminal block
- Soft touch controls
- Adjustable temperature differential
- Zoning system compatible
- Integrated four-minute short-cycle protection
- Mercury-free, environmentally safe
- Status LEDs

Standard Non-Programmable Thermostats

ICM Control	Features and Applications	Specifications	Terminations
	SC1001 SC1001V • Low cost, electronic, heat/cool thermostat • ICM patented thermal intrusion barrier • Easy "slide-bar" temperature adjustment • Easy-view adjustment scale V = Vertical model	• Electrical rating: • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load • Temperature control ranges: 45°F to 90°F, Accuracy $\pm 1^\circ\text{F}$	R, C, W, Y, O, B, G
	SC1600L SC1600VL • Single-stage heat thermostat • ICM patented thermal intrusion barrier • Large backlit LCD display • Battery operated • Low battery indicator • Millivolt compatible • Freeze protection feature • Remote sensor compatible • Compatible with gas, oil and hydronic systems • Selectable °F and °C V = Vertical model	• Electrical rating: • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load • Temperature control ranges: 45°F to 90°F, Accuracy $\pm 1^\circ\text{F}$	R, W, S1, S2
	SC1800L SC1800VL • Heat only thermostat • ICM patented thermal intrusion barrier • Large backlit LCD display • Battery operated • Low battery indicator • Millivolt compatible • Freeze protection feature • Remote sensor compatible • Compatible with gas, oil and electric systems V = Vertical model	• Electrical rating: • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load • Temperature control ranges: 45°F to 90°F, Accuracy $\pm 1^\circ\text{F}$	R, W, G, S1, S2
	SC1901L SC1901VL • Single-stage cool only thermostat • ICM patented thermal intrusion barrier • Large backlit LCD display • Hardwired • Remote sensor compatible • Compatible with A/C systems V = Vertical model	• Electrical rating: • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load • Temperature control ranges: 45°F to 90°F, Accuracy $\pm 1^\circ\text{F}$	R, C, Y, G, S1, S2
	SC2000L SC2000VL • For single-stage heat/cool or single-stage heat pump • ICM patented thermal intrusion barrier • Large backlit LCD display • Battery operated • Low battery indicator • Millivolt compatible • Manual changeover • Freeze protection • Zone compatible • Selectable °F and °C V = Vertical model	• Electrical rating: • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load • Temperature control ranges: 45°F to 90°F, Accuracy $\pm 1^\circ\text{F}$	RC, RH, W, Y, O, B, G

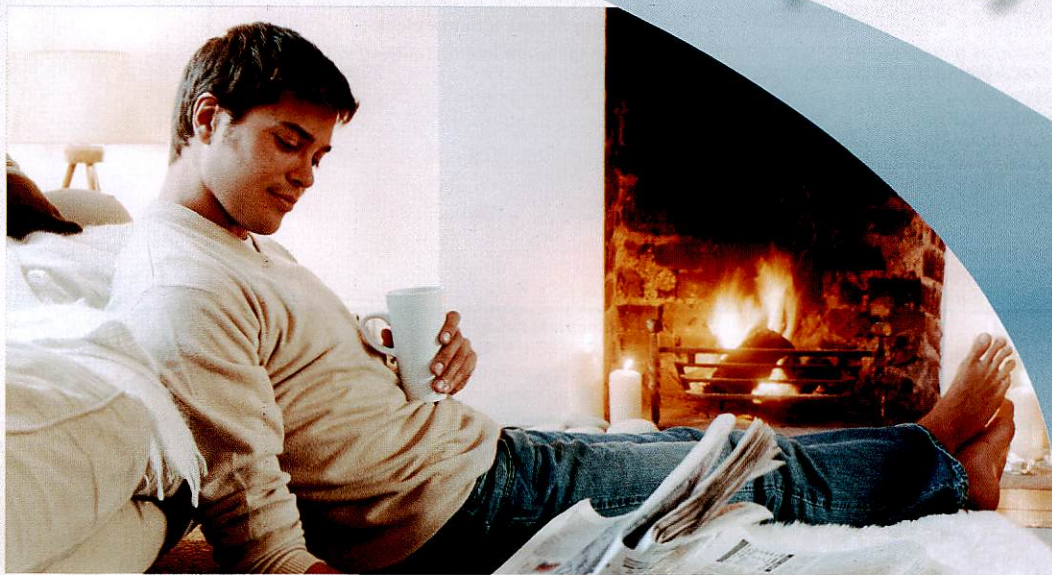
Standard Non-Programmable Thermostats

ICM Control	Features and Applications	Specifications	Terminations
	SC2001L SC2001VL - For single-stage heat/cool or single-stage heat pump - ICM patented thermal intrusion barrier - Large backlit LCD display - Hardwired - Manual changeover 4- or 5-wire compatible - Zone compatible V = Vertical model	Electrical rating: • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	R, C, W, Y, O, B, G
	SC2010L - For single-stage heat/cool or single-stage heat pump - ICM patented thermal intrusion barrier - SimpleSet™ target programming technology (configuration only) - Large display with backlight - Adjustable temperature differential - Dual powered - Manual changeover - Permanent memory - Freeze protection - Selectable °F and °C - Field adjustable calibration - Easy access terminal block 4- or 5-wire compatible - Keypad lockout	Electrical rating: • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	R, C, RH, C, W, Y, O, B, G
	SC2201L SC2201VL - For two-stage heat, one-stage cool heat pump only - ICM patented thermal intrusion barrier - Large backlit LCD display - Hardwired - Manual changeover - Status LEDs V = Vertical model	Electrical rating: • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 4 amp maximum total load Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	R, C, Y1, W2, O, B, G, E
	SC2211L - For three-stage heat, two-stage cool heat pump - ICM patented thermal intrusion barrier - SimpleSet™ target programming technology (configuration only) - Large display with backlight - Adjustable temperature differential - Field adjustable calibration - Zoning system compatible - Hardwired - Permanent memory - Easy access terminal block - Selectable °F and °C - Status LED	Electrical rating: • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 4 amp maximum total load Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	R, C, Y1, Y2, W2, O, B, G, E, L, W3
	SC2311L - For two-stage heat, single-stage cool or single-stage heat pump with auxiliary heat - ICM patented thermal intrusion barrier - SimpleSet™ target programming technology (configuration only) - Large display with backlight - Adjustable temperature differential - Field adjustable calibration - Hardwired - Permanent memory - Easy access terminal block - Selectable °F and °C - Status LED	Electrical rating: • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 4 amp maximum total load Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	R, C, W1/O/B, Y, W2, E, G

Standard Programmable Thermostats

ICM Control	Features and Applications	Specifications	Terminations
	SC3000L - For single-stage heat/cool or single-stage heat pump 7-day, 5-2-day and 5-1-1-day programming - ICM patented thermal intrusion barrier - New SimpleSet™ Target Programming technology - Large display with backlight - Adjustable temperature differential - Battery powered - Manual changeover - Permanent memory - Easy access terminal block - Field adjustable calibration - Millivolt compatible - Freeze protection - Zoning system compatible - Soft-touch controls - Selectable °F and °C	Electrical rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 3 amp maximum total load Easy access terminal block Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	RC, RH, W, Y, O, B, G
	SC3001L - For single-stage heat/cool or single-stage heat pump 7-day, 5-2-day and 5-1-1-day programming - ICM patented thermal intrusion barrier - New SimpleSet™ Target Programming technology - Large display with backlight - Adjustable temperature differential - Hardwired - Manual changeover - Permanent memory - Easy access terminal block - Field adjustable calibration - Zoning system compatible - Soft-touch controls - Selectable °F and °C	Electrical rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 3 amp maximum total load Easy access terminal block Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	RC, RH, W, Y, C, O, B, G
	SC3010L - For single-stage heat/cool or single-stage heat pump 7-day, 5-2-day and 5-1-1-day programming - ICM patented thermal intrusion barrier - New SimpleSet™ Target Programming technology - Large display with backlight - Adjustable temperature differential - Dual powered - Manual changeover - Permanent memory - Easy access terminal block - Field adjustable calibration 4- or 5-wire compatible - Freeze protection - Zoning system compatible - Soft-touch controls - Selectable °F and °C	Electrical rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 3 amp maximum total load Easy access terminal block Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	RC, RH, C, W, Y, O, B, G
	SC3211L - For two-stage heat pump 7-day, 5-2-day and 5-1-1-day programming - ICM patented thermal intrusion barrier - New SimpleSet™ Target Programming technology - Large display with backlight - Adjustable temperature differential - Hardwired - Manual changeover - Permanent memory - Easy access terminal block - Field adjustable calibration - Vacation hold - Selectable °F or °C - Keypad lockout - Zoning system compatible - Soft-touch controls - Status LEDs	Electrical rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 3 amp maximum total load Easy access terminal block Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	R, C, Y1, Y2, W2, O, B, G, E, L

Simple to install and operate enhanced quality features



Simplicity is in its name. ICM Controls **SimpleComfort® PRO** thermostats feature innovation and technology that delivers measurable value, simplifies installation and increases profitability. Blending the latest advances in thermostat technology with our new, patented **thermal intrusion barrier** and patented **SimpleSet™ Target Programming**, our **PRO** series thermostats set new industry standards exclusive to ICM Controls.

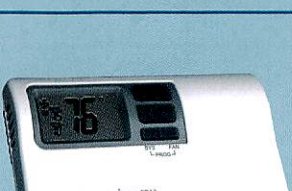
SimpleComfort® PRO thermostats feature:

- Flexible 7-day, 5-2-day and 5-1-1-day programming (5000 series models only)
- ICM patented **thermal intrusion barrier**
- New ICM patented **SimpleSet™ Target Programming** technology
- Large display with backlight
- Permanent memory
- Accuracy: $\pm 1^{\circ}\text{F}$, $\pm 0.5^{\circ}\text{C}$
- Manual or auto changeover
- Field adjustable calibration
- Adjustable maximum heat/minimum cool set points
- Extra comfort and energy savings modes between stages
- Adjustable temperature differential
- Integrated four-minute short-cycle protection
- Configurable remote sensor compatible
- Mercury-free, environmentally safe
- Selectable $^{\circ}\text{F}$ or $^{\circ}\text{C}$
- Keypad lockout
- Soft-touch controls
- Remote sensor compatible
- Status LEDs

PRO Series Non-Programmable Thermostats

ICM Control	Features and Applications	Specifications	Terminations
	SC4010 PRO • For single-stage heat/cool or single-stage heat pump • ICM patented thermal intrusion barrier • ICM SimpleSet™ Target Programming (configuration mode only) • Large display with backlight • Dual powered (battery or hardwired) • Auto or manual changeover • Permanent memory	• Electrical rating: • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 4 amp maximum total load • Easy access terminal block • Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	RC, RH, C, W/O/B, Y, G, S1, S2
	SC4011 PRO • For single-stage heat/cool or single-stage heat pump • ICM patented thermal intrusion barrier • ICM SimpleSet™ Target Programming (configuration mode only) • Large backlit LCD display • Hardwired • Auto or manual changeover • Permanent memory	• Electrical rating: • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 4 amp maximum total load • Easy access terminal block • Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	RC, RH, C, W/O/B, Y, G, S1, S2
	SC4211 PRO • For two-stage heat pump • ICM patented thermal intrusion barrier • ICM SimpleSet™ Target Programming (configuration mode only) • Large backlit LCD display • Hardwired • Auto or manual changeover • Permanent memory • Adjustable temperature differential for each stage	• Electrical rating: • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 4 amp maximum total load • Easy access terminal block • Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	R, C, Y1, Y2, W2, O/B, G, E, L, S1, S2
	SC4811 PRO • For two-stage heat/cool or two-stage heat pump • ICM patented thermal intrusion barrier • ICM SimpleSet™ Target Programming (configuration mode only) • Large backlit LCD display • Hardwired • Auto or manual changeover • Permanent memory • Adjustable temperature differential for each stage	• Electrical rating: • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 4 amp maximum total load • Easy access terminal block • Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	R, C, W1/O/B, Y1, W2, Y2, G, S1, S2
	SC4812 PRO • For three-stage heat/two-stage cool or two-stage heat pump • ICM patented thermal intrusion barrier • ICM SimpleSet™ Target Programming (configuration mode only) • Large backlit LCD display • Hardwired • Dual fuel compatible (requires ACC-OD103 outdoor sensor) • Auto or manual changeover • Permanent memory • Adjustable temperature differential for each stage	• Electrical rating: • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 4 amp maximum total load • Easy access terminal block • Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	R, C, W1/O/B, Y1, W2, Y2, G, W3, S1, S2
	SC4813 PRO • For three-stage heat/two-stage cool or two-stage heat pump • ICM patented thermal intrusion barrier • ICM SimpleSet™ Target Programming (configuration mode only) • Large backlit LCD display • Hardwired • Auto or manual changeover • Permanent memory • Adjustable temperature differential for each stage	• Electrical rating: • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 4 amp maximum total load • Easy access terminal block • Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	R, C, W1/O/B, Y1, W2, Y2, G, W3, S1, S2

PRO Series Programmable Thermostats

ICM Control	Features and Applications	Specifications	Terminations
	SC5010 PRO - For single-stage heat/cool or single-stage heat pump 7-day, 5-2-day and 5-1-1-day programming - ICM patented thermal intrusion barrier - Manual or auto changeover - ICM patent-pending SimpleSet™ Target Programming technology - Large display with backlight - Permanent memory - Dual powered (battery or hardware)	Electrical rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 4 amp maximum total load Easy access terminal block Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	RC, RH, C, W/O/B, Y, G, S1, S2
	SC5011 PRO - For single-stage heat/cool or single-stage heat pump 7-day, 5-2-day and 5-1-1-day programming - ICM patented thermal intrusion barrier - ICM SimpleSet™ Target Programming - Large backlit LCD display - Hardwired - Auto or manual changeover - Permanent memory	Electrical rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 4 amp maximum total load Easy access terminal block Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	RC, RH, C, W/O/B, Y, G, S1, S2
	SC5211 PRO - For two-stage heat pump 7-day, 5-2-day and 5-1-1-day programming - ICM patented thermal intrusion barrier - ICM SimpleSet™ Target Programming - Large backlit LCD display - Hardwired - Auto or manual changeover - Permanent memory - Adjustable temperature differential for each stage	Electrical rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 4 amp maximum total load Easy access terminal block Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	R, C, Y1, Y2, W2, O/B, G, E, L, S1, S2
	SC5811 PRO - For two-stage heat/cool or two-stage heat pump 7-day, 5-2-day and 5-1-1-day programming - ICM patented thermal intrusion barrier - ICM SimpleSet™ Target Programming - Large backlit LCD display - Hardwired - Auto or manual changeover - Permanent memory - Adjustable temperature differential for each stage	Electrical rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 4 amp maximum total load Easy access terminal block Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	R, C, W1/O/B, Y1, W2, Y2, G, S1, S2
	SC5812 PRO - For three-stage heat/two-stage cool or two-stage heat pump 7-day, 5-2-day and 5-1-1-day programming - ICM patented thermal intrusion barrier - ICM SimpleSet™ Target Programming - Large backlit LCD display - Hardwired - Dual fuel compatible (requires ACC-OD103 outdoor sensor) - Auto or manual changeover - Permanent memory - Adjustable temperature differential for each stage	Electrical rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 4 amp maximum total load Easy access terminal block Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	R, C, W1/O/B, Y1, W2, Y2, G, W3, S1, S2
	SC5813 PRO - For three-stage heat/two-stage cool or two-stage heat pump 7-day, 5-2-day and 5-1-1-day programming - ICM patented thermal intrusion barrier - ICM SimpleSet™ Target Programming - Large backlit LCD display - Hardwired - Auto or manual changeover - Permanent memory - Adjustable temperature differential for each stage	Electrical rating: 24 VAC (18-30 VAC) 1 amp maximum per terminal 4 amp maximum total load Easy access terminal block Temperature control ranges: 45°F to 90°F, Accuracy ± 1°F	R, C, W1/O/B, Y1, W2, Y2, G, W3, S1, S2

Fan Coil Thermostats

ICM Control	Features and Applications	Specifications	Terminations
	SC700LV/SC700V • 4-pipe heat/cool • 3 speed fan • Auto changeover • 24 VAC (SC700LV) and 120-240 VAC (SC700V) versions available • Remote room temperature sensor (Optional: Order ACC-RT103) • Horizontal model available • UL Listed	• Temperature control ranges: • 45°F to 90°F, accuracy $\pm 1^\circ\text{F}$ • 7°C to 32°C, accuracy $\pm 0.5^\circ\text{C}$ • System configurations: • Fan coil thermostat, 4-pipe; 3 speed fan	L1, L2, Y, W, GL, GM, GH, RS
	SC710LV/SC710V • 4-pipe heat/cool • 3 speed fan • Manual changeover • 24 VAC (SC710LV) and 120-240 VAC (SC710V) versions available • Remote room temperature sensor (Optional: Order ACC-RT103) • Horizontal model available • UL Listed	• Temperature control ranges: • 45°F to 90°F, accuracy $\pm 1^\circ\text{F}$ • 7°C to 32°C, accuracy $\pm 0.5^\circ\text{C}$ • System configurations: • Fan coil thermostat, 4-pipe; 3 speed fan	L1, L2, Y, W, GL, GM, GH, RS
	SC900V • 2 or 4-pipe • 3 speed fan • Pipe sensor for seasonal changeover • 24 VAC and 120-240 VAC versions available • Manual or auto changeover • Selectable °F or °C • Valve purge timer • Remote room temperature sensor (Optional: Order ACC-RT103) • Large backlit display • Icons for fan and outputs • Permanent memory • Key pad lockout function • Maximum heat/minimum cool set point limits • Soft touch controls	• Temperature control ranges: • 45°F to 90°F, accuracy $\pm 1^\circ\text{F}$ • 7°C to 32°C, accuracy $\pm 0.5^\circ\text{C}$ • System configurations: • Fan coil thermostat • 2 or 4-pipe; 3 speed fan	L, N, W/Y, Y/A, GL, GM, GH, RS, SC, SB, PS

Frost Sentry™ Garage Thermostats

When it comes to freezing cold temperatures, you can relax knowing that ICM's Frost Sentry™ is on guard. These low-cost thermostats are perfect for areas where protection from extreme cold is essential. Its special foam backing improves accuracy by providing separation from the wall at installation, while sealing up any unsightly wiring holes. This insulated backing helps eliminate the risk of "wall effect" (wall temperature causing false temperature readings). Ideal for storage areas, garages, workshops, crawl spaces and other critical areas.

Frost Sentry™ Garage Thermostats

ICM Control	Features and Applications	Specifications	Terminations
	FS40 • Easy, two-wire installation • Fixed setpoint at 40°F • Special foam backing improves accuracy; helps eliminate "wall effect" • Sleek, rugged design • Compatible with most standard electric heating units • Ideal for storage areas, garages, workshops and crawl spaces	• Input: 18-30 VAC • Output: 2 amps max. • Temperature setpoint: Fixed 40°F • Accuracy: $\pm 5^\circ\text{F}$	R, W, G
	FS1500L • Controls single stage heating systems • Millivolt, hydronic (water or steam) system, gas and electric systems • Battery operated • Backlit display • Mercury-free, environmentally safe • Remote sensor compatible (ACC-RT104) • Perfect for use with unit heaters	• Electrical rating: • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 2 amp maximum total load • Easy access terminal block • Temperature control ranges: • 35°F to 75°F, accuracy $\pm 1^\circ\text{F}$	R, W, G, S1, S2
	FS1500VL • Controls single stage heating systems • Millivolt, hydronic (water or steam) system, gas and electric systems • Battery operated • Backlit display • Mercury-free, environmentally safe • Remote sensor compatible (ACC-RT104) • Vertical design for easy J-box installation • Perfect for use with unit heaters	• Electrical rating: • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 2 amp maximum total load • Easy access terminal block • Temperature control ranges: • 35°F to 75°F, accuracy $\pm 1^\circ\text{F}$	R, W, G, S1, S2

Why waste time and money installing dummy thermostats or cases that can be broken into?

ICM Controls' new line of **Managed Property Thermostats** give landlords peace of mind knowing that their profits are safe from tenants who like to "tamper" with their thermostat set points, often resulting in unsuspected, skyrocketing utility costs. Each model features digital accuracy with one-time configurable heat/cool set point limits that cannot be reconfigured, to deter tenants from tampering!

Managed Property Thermostats feature:

- One-time configurable temperature minimum/maximum set points
- Patent-pending Abnormal Rate of Change (ARC) detection technology
- Placebo option
- 7-Day, 5-2 day, and 5-1-1 day programming (programmable models only)
- Auto and/or manual changeover
- Large, digital backlit display
- Selectable °F and °C
- Precise temperature sensing (accuracy $\pm 1^\circ\text{F}$)
- Patented thermal intrusion barrier
- Permanent memory
- Adjustable temperature differential
- Easy-access terminal block
- Integrated 4-minute short-cycle timer
- Soft-touch controls
- Status LEDs (all models but MP2010L)
- Mercury-free, environmentally safe



Specifications:

Electrical rating: 24 VAC (18-30 VAC)

- 1 amp maximum per terminal
- 3 amp maximum total load (4 amps on multiple-stage units)

Temperature control ranges:

- 45°F to 75°F Heat (7°C to 24°C)
- 70°F to 90°F Cool (21°C to 32°C)

	Model #	Type	Stages	Changeover	Power	Remote Sensor Compatible	Terminations
	MP2010L	Non-Programmable	1H/1C or 1HP	Manual	Dual	N	RC, RH, C, W, Y, O, B, G
	MP2211L	Non-Programmable	3H/2C HP Only	Manual	HW	N	R, C, Y1, Y2, W2, O, B, G, E, L, W3
	MP4010	Non-Programmable	1H/1C or 1HP	Auto/Manual	Dual	Y	RC, RH, C, W/O/B, Y, G, S1, S2
	MP4211	Non-Programmable	2-Stage HP Only	Auto/Manual	HW	Y	R, C, Y1, Y2, W2, O/B, G, E, L, S1, S2
	MP5010	Programmable	1H/1C or 1HP	Auto/Manual	Dual	Y	RC, RH, C, W/O/B, Y, G, S1, S2
	MP5211	Programmable	2-Stage HP Only	Auto/Manual	HW	Y	R, C, Y1, Y2, W2, O/B, G, E, L, S1, S2

The ACH045 to ACH085 series thermostats are low-cost, single setpoint thermostats intended for use as temporary devices to provide heating or cooling to allow drywall to dry during construction. They also can be used as a low ambient cutoff switch.



Features

- Two-wire installation
- Seven fixed setpoint models to choose from: 45°F to 85°F
- Temporary use for dryout applications
- Can be used as a low ambient cutoff switch

Specifications

- **Input:** 18-30 VAC
- **Output:** 2 amp maximum
- **Temperature control range:** 45°F to 85°F (±9°F)

Modes of Operation

• Heat/Cool Thermostat

The heating models will close when the ambient temperature drops below the respective setpoint and open when the ambient temperature is above the respective set point. The cooling models will close when the ambient temperature is above the respective setpoint and open when the ambient temperature drops below the respective set point.

• Low Ambient Cutoff: Condenser Fan Motor

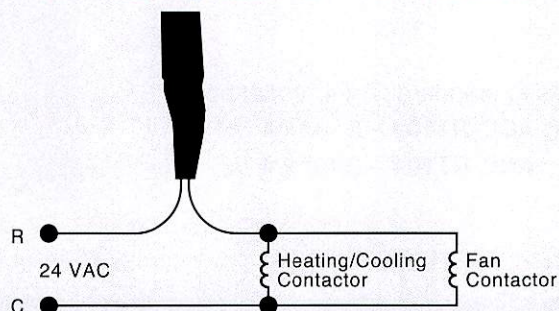
The ACH045 and ACH055 models can be used as a low ambient cutoff switch for a condenser fan motor. When the ambient temperature drops below the set point, the unit will open the fan signal and turn the fan motor off. It will not allow the fan to turn back on until the temperature rises above the set point.

• Low Ambient Cutoff: Compressor

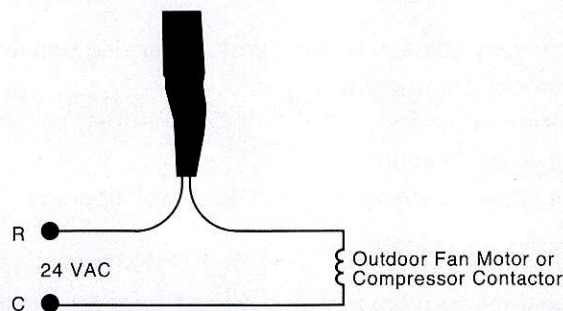
The ACH045 and ACH055 models can also be used as a low ambient cutoff switch for the compressor when wired in series with the Y circuit from the thermostat. When using with the compressor circuit, an anti-short cycle timer is recommended to prevent possible damage to the compressor from short cycling.

Wiring Diagrams

for Heating/Cooling Thermostats



for Low Ambient Cutoff



Ordering Information

Dryout Thermostats							
Part Number	ACH045	ACH055	ACH060	ACH065	ACH070	ACH075	ACH085
Temperature Range*	45°F ±9°	55°F ±9°	60°F ±9°	65°F ±9°	70°F ±9°	75°F ±9°	85°F ±9°
2-wire	✓	✓	✓	✓	✓	✓	✓
Heat			✓	✓	✓		
Cool	✓	✓				✓	✓

* Consult factory for other set points

Visit www.icmcontrols.com to find all of our latest products, sell sheets and wiring diagrams

All features and specifications subject to change without notice.

Application Assistance
800.365.5525

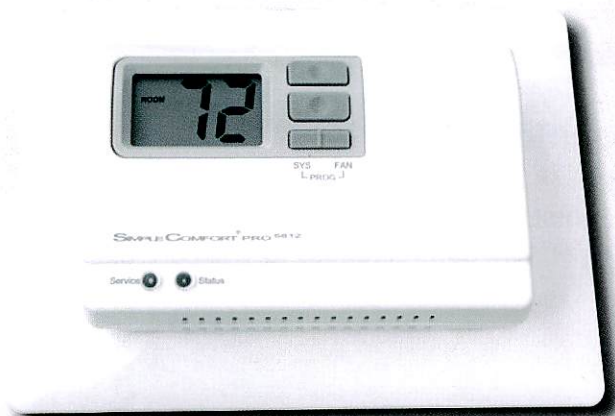
Customer Service Fax
315.233.5282

Phone
315.233.5266



Wall Plate

Need more wall coverage?
Choose an ICM insulated wall plate.



The fast, easy solution for hiding wall problems.

- Rugged, flexible construction
- Foam gasket prevents drafts through wall opening
- Hidden mounting screws (included) for a sleek appearance
- **Order: ACC-WP03** – 5 19/32" x 7 1/2"
- **Order: ACC-WP04** – 5 27/32" x 5 15/16"

SimpleSet™ Transfer Cable

Program each thermostat in seconds!



- Transfer configuration and/or program from one thermostat to another
- **Order: ACC-WIH21**

Remote Sensor

Need to monitor the temperature away from the thermostat?
Choose an ICM remote sensor.

The fast, easy solution for temperature sensing problems.

- For tamper-prone areas
- Poor air flow areas
- Troubled applications
- Foam gasket prevents drafts through wall opening
- Mounts to standard 2" x 4" outlet box
- **Order: ACC-RT103** – 2 3/4" x 4 1/2"
- **ACC-RT104** – 2 3/4" x 4 1/2"



Remote Sensor Compatible with the Following SimpleComfort® Thermostats

ACC-RT103

SC700V	SC710V	SC900V	SC4011	SC4211	SC4811	SC4812	SC4813	SC5011	SC5211	SC5811	SC5812	SC5813
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Remote Sensor Compatible with the Following SimpleComfort®, Frost Sentry™ and I3 Series Touch Thermostats

ACC-RT104

SC1600L	SC1600VL	SC1800L	SC1800VL	SC1901L	SC1901VL	SC4010	SC5010	FS1500L	FS1500VL	I ³ SERIES
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All features and specifications subject to change without notice.

Phone
315.233.5266

Customer Service Fax
315.233.5282

Visit www.icmcontrols.com to find all
of our latest products, sell sheets and wiring diagrams

Application Assistance
800.365.5525

Simple Comfort® & i3™ Series Logo Ordering Instructions

CUSTOM Logo Program

Order 24 thermostats and put your contact information on the cover for **FREE!**

1. Please read entire Custom Logo Request Form prior to completing it.

- If you do not understand something, contact Jim Kocik @ 800.365.5525 x321.
- ANY modifications to a previously approved logo requires that this Custom Logo Request Form is resubmitted.

2. Completely fill out the Custom Logo Request Form, and send it to ICM.

- Print appropriate information in the blank spaces on the form.
- Pay special attention to check boxes.

IMPORTANT! Please do not send in a PO with this Custom Logo Request Form. A PO for Custom Logo Requests cannot be processed until a Logo L#### is assigned & the logo approved. This L#### must be used on the PO when ordering! The Custom Logo Approval Form provided by ICM with the logo for approval will provide this number.

3. If choosing a font from the Sample Fonts, make sure the correct font number appears in the appropriate space on the form (under Logo Art Origin).

4. If choosing to provide a formatted logo.

- It is important to provide the Graphics Specifications on the Simple Comfort® & i3 Series Custom Logo Request Form to the Company or Person providing the art for the Logo.
- We suggest getting a commitment from the graphics provider as to when the logo will be submitted to ICM and following up with them and ICM to be sure the logo has been received.
- If the logo is not submitted and/or received there will be no logo for the thermostats.
- Be sure to submit the Custom Logo Request Form completely filled out with a clean/enlarged hard copy of the graphics to be provided for the logo attached. Review this copy with the contractor before submitting to ICM, so that anything on the Logo that should not appear on the thermostat is noted.

5. A Custom Logo Approval Form will be sent for approval with an L#### provided.

- This form must be returned to ICM with the Approval signatures.
- The L#### must be used on the PO when ordering with the thermostat part #. This ensures the specific Logo, identified with the L#### is printed on the selected thermostat. Replacement covers for **Simple Comfort® Thermostat logos that are incorrectly ordered are \$3.75 each.** Incorrectly ordered **i3 Series Custom Tab Logos are \$1.00 each.** Refer to the Custom Logo Approval Form for more information.
- Custom Logo Approval Forms are expected to be returned to ICM with approvals within 10 days with a Purchase Order using the L#### and Thermostat part # as shown on the Approval Forms.
- Failure to return the approved Custom Logo Approval Form or a PO will cause delays.

6. If you need further assistance, or have questions please contact: Jim Kocik @ 800.365.5525 x321.

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Simple Comfort® Thermostat

Custom Logo Request Form

This form is available on the home page of our web site at www.icmcontrols.com.

Fax completed form to
315.233.5282

Wholesale
Information

Wholesaler Name

Wholesaler Contact Person

Wholesaler Phone Number

Wholesaler Fax Number

Wholesaler Email Address

Contractor
Information

Contractor Name

Contractor Contact Person

Contractor Address (City, State and Zip Code)

Contractor Phone Number

Contractor Fax Number

Contractor Email Address

Minimum order is 24 thermostat

Simple Comfort® Logo specifications (3 lines maximum)

Approximate logo dimensions: 1.5"w x 0.7"h. **Final Logo size:** Will be determined by ICM. If you can not read your logo when scaled to fit the box, it **WILL NOT** mark properly on a thermostat. Your logo should be modified accordingly to be legible. Logo is laser engraved into the thermostat.

Note: Blue box shows exterior boundaries of logo area. It will not be printed.

LOGO ART ORIGIN (check one)

- ☐ A. Please create a basic imprint from the fonts on the right.

Use font # _____ for this logo.

Choose from 1 to 22 from list on right)

LINE 1: _____

LINE 2: _____

LINE 3: _____

- ☐ B. Based on the specifications stated below, we have made arrangements to email a properly formatted logo.

GRAPHICS SPECIFICATIONS:

Please forward this information to the person or graphics company responsible for submitting your logo.

- Required Formats:** Illustrator or any vector file with text converted to outline/paths/curves.
- Acceptable logo formats to submit:** (a) **100% black logo only** (**no color or grey scale**), 300 dpi JPEG, EPS, or TIFF files. (b) Adobe Illustrator vector file with fonts converted to outlines
- Unacceptable logo file formats:** BMPs, Corel Draw files, DAT files, DXF/CAD files, GIF files, PNG files, Low-res scans, MSWord files, Page Maker files, PowerPoint files, Quark Xpress files, Window metafiles, and web site images less than 300 dpi.
- Email logo to: jkocik@icmcontrols.com

- ☐ C. Submitting changes to existing logo. Please provide existing

L#### that requires changes: _____

Note: New logo will receive a new L####, and must be used instead of the previous L####. Using the previous L#### on a PO will result in the Old L#### being printed on the thermostats.

FONT #	SAMPLE FONT
1	ALMONTE SNOW Made in the USA 800-365-5525
2	Avante Garde Made in the USA 800-365-5525
3	Myriad Pro Made in the USA 800-365-5525
4	Antique O Bold Made in the USA 800-365-5525
5	Barbedor T Bold Made in the USA 800-365-5525
6	Albertus Medium Made in the USA 800-365-5525
7	Bell MT Made in the USA 800-365-5525
8	Blippo Blad Made in the USA 800-365-5525
9	Tubular Regular Made in the USA 800-365-5525
10	Bodoni Ant T Bold Made in the USA 800-365-5525
11	Broadway D Made in the USA 800-365-5525

FONT #	SAMPLE FONT
12	Block T Regular Made in the USA 800-365-5525
13	CG Omega Made in the USA 800-365-5525
14	Charcol Made in the USA 800-365-5525
15	Clearface Gothic Bold Made in the USA 800-365-5525
16	Cooper Black Made in the USA 800-365-5525
17	Micro FLF Made in the USA 800-365-5525
18	Futura Made in the USA 800-365-5525
19	Hobo D Made in the USA 800-365-5525
20	LIBERTY D MADE IN THE USA 800-365-5525
21	Rockwell Made in the USA 800-365-5525
22	Trebuchet MS Made in the USA 800-365-5525

Logo Change Notes

i3™ Series Custom Tabs

Custom Logo Request Form

This form is available on the home page of our web site at www.icmcontrols.com.

Fax completed form to
315.233.5282

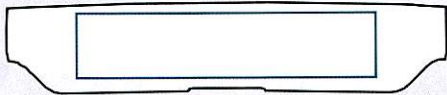
Wholesale
Information

Wholesaler Name	Wholesaler Contact Person
Wholesaler Phone Number	Wholesaler Fax Number
Wholesaler Email Address	

Contractor
Information

Contractor Name	Contractor Contact Person
Contractor Address (City, State and Zip Code)	
Contractor Phone Number	Contractor Fax Number
Contractor Email Address	

Minimum order is 24 thermostat



i3™ Series Custom Tab Specifications (1 line maximum)

Approximate logo dimensions: 1.75"w x 3/8"h. If you can not read your logo when scaled to fit the box, it **WILL NOT** mark properly on a thermostat. Please modified to fit the box. Logo is laser engraved in tab.

LOGO ART ORIGIN (check one)

- ☐ A. Please create a basic imprint from the fonts on the right.
- Use font # _____ for this logo.
Choose from 1 to 22 from list on right)
- LINE 1: _____

- ☐ B. Based on the specifications stated below, we have made arrangements to email a properly formatted logo.

GRAPHICS SPECIFICATIONS:

Please forward this information to the person or graphics company responsible for submitting yopu logo.

- Required Formats:** Illustrator or any vector file with text converted to outline/paths/curves.
- Acceptable logo formats to submit:** (a) **100% black logo only** (no color or grey scale), 300 dpi JPEG, EPS, or TIFF files. (b) Adobe Illustrator vector file with fonts converted to outlines
- Unacceptable logo file formats:** BMPs, Corel Draw files, DAT files, DXF/CAD files, GIF files, PNG files, Low-res scans, MSWord files, Page Maker files, PowerPoint files, Quark Xpress files, Window metafiles, and web site images less than 300 dpi.
- Email logo to: jkocik@icmcontrols.com

FONT #	SAMPLE FONT
1	Made in the USA
2	Made in the USA
3	Made in the USA
4	Made in the USA
5	Made in the USA
6	Made in the USA
7	Made in the USA
8	Made in the USA
9	Made in the USA
10	Made in the USA
11	Made in the USA

FONT #	SAMPLE FONT
12	Made in the USA
13	Made in the USA
14	Made in the USA
15	Made in the USA
16	Made in the USA
17	Made in the USA
18	Made in the USA
19	Made in the USA
20	MADE IN THE USA
21	Made in the USA
22	Made in the USA

- ☐ C. Submitting changes to existing logo. Please provide existing L#### that requires changes: _____

Note: New logo will receive a new L####, and must be used instead of the previous L####. Using the previous L#### on a PO will result in the Old L#### being printed on the thermostats.

Logo Change Notes

Visit www.icmcontrols.com to find all of our latest products, sell sheets and wiring diagrams

All features and specifications subject to change without notice.

Application Assistance
800.365.5525

Customer Service Fax
315.233.5282

Phone
315.233.5266



ICM offers a wide variety of selling tools, and displays.

Please contact your ICM Controls sales representative for more information.



ICM450 Demo

Part #	Description
ICM002	ICM screwdriver, reversible phillips head/flat head, with pocket clip
ICM450 Demo	3-phase motor protection demonstration unit
Display-36PB	Pegboard – Standard merchandising display kit with 36" header and pegboard backer sheets
Display-48PB	Pegboard – Standard merchandising display kit with 48" header and pegboard backer sheets
Display-36SW	Slatwall – Standard merchandising display kit with 36" header and slatwall backer sheet
Display-48SW	Slatwall – Standard merchandising display kit with 48" header and slatwall backer sheet
LIM134	Authorized ICM Controls distributor window decal (8" w x 6" h)
LIM157	ICM Controls banner with grommets (52" w x 22" h)
LIM166	Static Window Sticker - Proudly Made in America ... for showroom windows
LIM167	Bumper Sticker - Proudly Made in America, Be a Patriot Buy American

Note: Some restrictions may apply. Please contact your ICM Controls sales representative for more information.

Display-36PB

LIM134



LIM157



LIM166



LIM167



- 36" pegboard Each display ships with a separate header and a display kit. The kit contains all necessary parts to build the display, as shown above.
- 48" pegboard
- 48" slatwall Each slatwall display incorporates the header and ships with a display kit. It contains all necessary parts to build the display, as shown above, only for a slatwall configuration.

Call your local sales representative for available options!



All features and specifications subject to change without notice.

Phone
315.233.5266

Customer Service Fax
315.233.5282

Visit www.icmcontrols.com to find all of our latest products, sell sheets and wiring diagrams

Application Assistance
800.365.5525

ICM Controls Limited Warranty Policy

This Limited Warranty applies to ICM Controls Products, purchased from ICM Controls or an Authorized Distributor of ICM Controls Products.

ICM Controls limited warranty covers any defects in material or workmanship under normal use during the warranty period of 3 years from date of manufacture, or 1 year from date of installation, whichever is shorter. During this Warranty Period the Liability of ICM Controls is limited at its option to repair, replace, or issue a non-case credit for the purchase prices, at no additional charge, for products proven to be defective because of improper material, or workmanship, under normal use and maintenance.

Credit – Repair – Replacement

1. Credit for defective product is to be provided to the Authorized Distributor and is a Credit for the Original Purchase Price from ICM Controls. A credit ends the Warranty Period.
2. Repaired Products are to be agreed upon with the Authorized Distributor and will be marked as Refurbished Product, and must be sold as Refurbished Product. A Repaired Product shall carry a Limited Warranty Period as the Remainder of the Original Limited Warranty 3 years from date of manufacture, or 1 year from date of installation, whichever is shorter.
3. Replacement Product shall provide a new replacement Product. A Replaced Product shall carry a New Limited Warranty Period of 3 years from date of manufacture, or 1 year from date of installation, whichever is shorter.

This limited warranty does not cover the following service cost(s):

1. Service Calls to troubleshoot, repair, rework, replace, or maintenance of a covered product.
2. Service Calls to educate the end consumer on proper operation, installation, or maintenance of a covered Product.
3. Repairs necessitated by use other than normal operational usage.
4. Damage resulting from misuse, abuse, neglect, accident, alteration, acts of god, improper storage, or improper application or installation.

In order to permit the ICM Controls to properly administer the warranty, return the Defective Product to the Authorized Distributor from which it was Purchased.

1. The Authorized Distributor will then contact ICM Controls for an RMA (Returned Materials Authorization) via our Website <http://www.icmcontrols.com/rma-request.asp> submitting the Authorized Distributor Name, Address, Contact Information, Part Number, Date Code, Quantity, Reason for Return, Proof of Purchase, and any other pertinent data as requested. ICM will approve either a request for product return to ICM for evaluation, or field scrap disposition (in accordance with the ICM field scrap program).
2. The Authorized Distributor shall permit ICM Controls to inspect and test the product claimed to be defective. Items claimed to be defective that are determined by ICM Controls to be non-defective (NFF) are subject to credit denial and may be requested to be returned to the Authorized Distributor.

This warranty constitutes ICM Controls sole liability hereunder and is in lieu of any other warranty expressed, implied or statutory. Unless otherwise stated in writing, ICM Controls makes no warranty that the products depicted or described herein are fit for any particular purpose.



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Innovative HVACR Control Solutions from ICM Controls

Air Handling Controller	Fan Coil Relay Controls	Fan Safety Alarm	Freeze Protection	Furnace Controls	Gas Ignition Controls	Head Pressure Controls	13™ Series Touch Thermostats	Motor Protection Controls	Motor Speed Controls
Compressor Protection	Condensation Controls	Custom Logo Program	Defrost Controls	Displays and Selling Tools	Duty Cycle Timers	ECM Controls	Fan Blower Controls		

Motor Starters	Oil Burner Primaries	SimpleComfort® Thermostats	Surge Protection Devices	Thermostat Accessories	Timers – DOB and DOM	Universal Motor Starting Relay	Voltage Monitors: Single Phase	Voltage Monitors: 3-Phase
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Phone: 315.233.5266
Fax: 315.233.5276

Application Assistance
800.365.5525

7313 William Barry Blvd.,
North Syracuse, NY 13212

www.icmcontrols.com

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