ICM CONTROLS

Bypass

ICM175 Bypass Timer

ICM Bypass Timers are 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.

- 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 delays: 10-1,000 seconds
- UL Approval: E53944

	Input		Output		
Mfg Part No	Voltage (VAC)	Frequency (Hz)	Max (amp)	Min (mA)	Inrush (amp)
ICM175B	18-240	50/60	1	40	10

Defrost Controls

ICM's extensive line of heat pump defrost timers represents a progression of control technology from the simplest, non-integrated time and temperature defrost to more highly integrated functions such as integral anti-short cycle protection. Our controls offer direct OEM replacement for some of the industry's most popular heat pump models at a fraction of the cost. Choose from ICM's extensive line of time-proven controls to best meet the needs of your 18-240 VAC application.

ICM300 Heat Pump Defrost Timer

- Ultra low cost
- Pin-for-pin compatible with OEM type 621 controls
- Simple time and temperature control
- Must have external relays for fan, reversing valve and auxiliary heat
- High installed base

Time Delays
Defrost Time: Fixed 10 minutes ± 5%
Interval Time between defrosts: Pin-selectable 30/60/90 min
Power on Reset Time: 500ms
Test Time: Short across test terminals reduces test time 256x

	Input			Output		
Mfg Part No	Voltage (VAC)	Frequency (Hz)	Power Consumption (watt)	Type	Form	Rating (amp)
ICM300	18-30	50/60	1	Relay	SPST, N.O.	1

Delay on Break

ICM's Delay on Break (DOB) Timers are low cost, direct OEM replacements that offer reliable, lasting protection for your HVACR equipment. Provides anti-short cycle protection for your air conditioning, refrigeration and heat pump equipment. Each unit features rugged, compact packaging and high power relays. UL listed. Choose from our extensive product selection to best meet the needs of your application.

ICM201 2-Wire Hookup

- Compressor lockout/anti-short cycle timer
- Helps to protect compressors from damage caused by rapid short cycling
- Simple, 2-wire hookup
- Fixed timing
- 18-30 VAC

Time Delay:
3 or 5 minute fixed

	Input		
Mfg Part No	Voltage (VAC)	amp	Inrush (amp)
ICM201B	18-30	1.5	15

ICM203 2-Wire Hookup

- Compressor lockout/anti-short cycle timer
- Helps to protect compressors from damage caused by rapid short cycling
- Simple, 2-wire hookup
- Adjustable timing
- Universal voltage

Time Delay:
Knob-adjustable
.03-10 minutes (1.8-600 seconds)

	Input		
Mfg Part No	Voltage (VAC)	amp	Inrush (amp)
ICM203B	18-240	1.5	15

Delay on Make

ICM's Delay on Make (DOM) Timers are ideal for compressor staging and stagger starting multiple motors and other equipment. They help to reduce power surges.

ICM102 Delay on Make Timers

- Universal voltage operation
- Higher 1.5 amp power rating
- Knob-adjustable time delays
- Works with anticipator-type thermostats
- One model replaces many in field

Time Delays
Adjustable delay: .03-10 minutes (1.5-600 seconds)

	Input		
Mfg Part No	Voltage (VAC)	amp	Inrush (amp)
ICM102B	18-240	1.5	15

ICM103 Delay on Make Timers

- Highly precise digital timing
- Switch-settable time delays
- Ideal for ice machine applications
- Universal voltage operation
- Repeat accuracy .5% over voltage and temperature range

Time Delays
Switch-settable delays range from 1-1,023 seconds

	Input			
Mfg Part No	Voltage (VAC)	amp	Inrush (amp)	Holding Current (mA)
ICM103B	18-240	1.5	10	40

Fan Blower Controls

ICM offers low cost, direct wire for wire replacement fan blower controls for many popular OEM models. Our fan blower controls monitor safety switches, provide on and off delays and control the speed of the fan in heat pumps, and in air conditioning and forced air systems according to the logic of the original board.

ICM251 Fan Blower Controls

- 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

Time Delays Adjustable
On: 1-180 seconds
Off: 12-390 seconds

	Input		Output	
Mfg Part No	Voltage (VAC)	Frequency (hz)	N.O.	N.C.
ICM251	18-30	50/60	20 amps @ 240 VAC	10 amps @ 240 VAC

ICM253 Fan Blower Controls

- 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

Time Delays Adjustable
Off: 12-390 seconds

	Input		Output		
Mfg Part No	Voltage (VAC)	Frequency (hz)	Max (amp)	Min (mA)	Inrush (amp)
ICM253	18-30	50/60	1	40	10

ICM255 Open Board Fan Blower Controls

- 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

Fixed Time Delays
ON: 1 second
OFF: 60 seconds

	Input		Output	
Mfg Part No	Voltage (VAC)	Frequency (hz)	N.O.	N.C.
ICM255	18-30	50/60	20 amps @ 240 VAC	20 amps @ 240 VAC

ICM CONTROLS

Fan Blower Controls

ICM271 Fan Control Center

- Reliable solid state fan blower
- 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 heat pump, A/C and forced air systems
- OFF delay purges ducts for residual air
- ON delay allows air to reach the proper comfort level prior to energizing the fan

Fixed Time Delays
ON: 75 seconds OFF: 105 seconds

	Input		Contact Ratings (amps)	
Mfg Part No	Voltage (VAC)	Frequency (hz)	N.O.	N.C.
ICM271	18-30	50/60	20	10

ICM275 Fan Control Center

- Microprocessor-based fan blower control
- Built in humidity relay
- Manually adjustable post-purge off delay from 60-240 seconds
- Electronic air cleaner output

Time Delays
ON: 60 seconds fixed OFF: 60-240 seconds adjustable

	Input		Contact Ratings (amps)	
Mfg Part No	Voltage (VAC)	Frequency (hz)	N.O.	N.C.
ICM275	18-30	50/60	20 amps @ 240 VAC	10 amps @ 240 VAC

Head Pressure Controls

ICM's head pressure controls regulate system pressure to help prevent evaporator freeze-ups, low-pressure cutouts and liquid-slugged compressors in low ambient conditions that can lead to costly downtime and/or loss of valuable perishable goods. They can eliminate overshoots common to on/off pressure switch controls and also control refrigerant circuits. Features include hard start, low temperature cutoff and high temperature bypass. ICM's head pressure controls are ideal for air conditioning and refrigeration applications.

ICM325H Single-Phase Head Pressure Control

- 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
- Features: hard start, low temperature bypass, isolated 24 VAC supply

	Input			Output	
Mfg Part No	Control (VAC)	Frequency (hz)/Max (VA)	Line Input (VAC)	Max (amps)	Min (mA)
ICM325HC	18-30	50/60/1.8	120-480	10	100

ICM326H Single-Phase Head Pressure 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
- Features: hard start, low temperature cutoff, high temperature bypass
- Ideal for line voltage air conditioning and refrigeration

	Input		Output	
Mfg Part No	Voltage (VAC)	Frequency (hz)	Max (amps)	Min (mA)
ICM326HC	120 or 208/240	50/60	10	100

ICM327H Single-Phase Head Pressure 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
- Features: hard start, low temperature cutoff, high temperature bypass
- Ideal for line voltage air conditioning and refrigeration

	Input		Output	
Mfg Part No	Voltage (VAC)	Frequency (hz)	Max (amps)	Min (mA)
ICM327HC	480	50/60	10	100

ICM379 Sensor Probe

- Probe for use with ICM325H, ICM326H, ICM327H and ICM330 head pressure controls with optional heat pump bypass

Mfg Part No	Length (in)	Temp Range (F)
ICM379	79	70-100

Motor Protection Controls

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 loss, 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 line monitors provide high performance surge protection. They are suitable for rugged environments and protect against lightening power surges and voltage surges from air conditioners, generators or motors.

ICM400 Three-Phase Line Voltage Monitor

- Monitors "front" and "back" sides of system
- Universal voltage operation: 190-630 VAC
- Knob-adjustable features and system set points
- Protects against voltage unbalance, high/low voltage, phase loss, phase reversal, faulty power, incorrect sequencing and rapid short cycling

						Output		
Mfg Part No	Voltage (VAC)	Frequency (hz)	Voltage Unbalance	Control (VAC)	Delay on Break Timer (min)	Relay	N.O. (amps)	N.C. (amps)
ICM400	190-630	50/60	Adjustable 2-25%	18-240	0.1-5	SPDT	10	6

ICM401 Phase Loss and Reversal Protection

- 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
- Epoxy encapsulated for moisture protection

				Output	
Mfg Part No	Voltage (VAC)	Frequency (hz)	Control (VAC)	Relay	N.O. (amps)
ICM401C	190-600	50/60	18-30	SPDT	10

ICM402 Phase Loss and Reversal Protection

- 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
- Epoxy encapsulated for moisture protection

				Output	
Mfg Part No	Voltage (VAC)	Frequency (hz)	Control (VAC)	Relay	N.O. (amps)
ICM402C	190-600	50/60	115 or 208/240	SPDT	30

ICM450 Three-Phase Line Voltage Monitor

- Fully programmable with LCD diagnostic display
- 25-fault memory storage, non-volatile
- Identifies front and back side faults
- Protects against: voltage unbalance, high/low voltage, phase loss, phase reversal, faulty power, incorrect sequencing and rapid short cycling
- Universal voltage operation: 190-630 VAC

						Output		
Mfg Part No	Voltage (VAC)	Frequency (hz)	Voltage Unbalance	Control (VAC)	Delay on Break Timer (min)	Relay	N.O. (amps)	N.C. (amps)
ICM450C	190-630	50/60	Adjustable 2-25%	18-240	0.1-5	SPDT	10	6

ICM491 Single-Phase Motor Protection

- Low cost single phase motor protection
- Built in anti-short cycle protection
- Detects high/low voltage conditions
- Helps prevent rapid short cycling
- LED indicators:
  - Green for normal conditions
  - Red for fault
- Heavy duty SPDT, isolated relay output

			Output		
Mfg Part No	Voltage (VAC)	Time Delay Range (sec)	Relay	N.O. (amps)	N.C. (amps)
ICM491C	95-270	Adjustable 6-600	SPDT	5	5