



MOTOR CONTROLS

INTEGRATED VFD AND BYPASS SYSTEM POW-R-GATE SERIES

DESCRIPTION

The **Pow-R-Gate** integrated VFD and bypass system is a packaged solution that simplifies selection, installation, startup, and commissioning for many HVAC applications. Equipped as standard with the feature-rich F700 drives*, the Pow-R-Gate's three-contactor bypass with factory wiring is the way to save cost, time, and manpower.

Pow-R-Gate's integral three-contactor bypass and disconnect not only make applying the F700 drive a snap, it also brings Mitsubishi's industry-leading energy savings and reliability to the job. Built-in PID control, a wide array of configurable inputs and outputs, and all the most popular network protocols make Pow-R-Gate the right choice for your variable speed drive needs.

*See F700 catalog pages for detailed VFD information.



Pow-R-Gate



FEATURES

- Drive is mounted outside the main enclosure
- Choice of non-fused disconnect, fused disconnect or circuit breaker
- Hinged cover with through-panel interlocking handle
- Choice of standard DC link choke or optional 3% or 5% impedance input reactors
- All field terminations brought out to terminal blocks.
- Speed match—catch spinning load (forward or reverse)
- Soft-PWM control (low noise emissions)
- EMI/RFI filter built-in as standard
- Selectable electronic overload protection
- Last eight alarms stored
- Available with damper vane control

13

MOTOR CONTROLS

SPECIFICATIONS

Voltage (model specific)	Three-phase 200 to 240 VAC, 60 Hz Three-phase 200 to 220 VAC, 50 Hz Three-phase 380 to 480 VAC, 50/60 Hz	Humidity	95% RH or less (non-condensing)
Motor rating F700	1.0 to 250 hp	Analog Inputs	3, configurable
Acceleration or deceleration time	0 - 3600 seconds, linear or S-pattern (reduces the impact of acceleration and deceleration at start and stop points)	Voltage	0 to ±10 VDC 0 to ±5 VDC (200 kΩ)
Starting torque	120% at 3 Hz	Current	0-20 or 4 to 20 mA (250 Ω)
Frequency	0.5 Hz to 400 Hz	Digital inputs	7; 24 VDC
Overload Rating	120% for 60s (150% for 3s) 0 Hz to 400 Hz	Analog output	2: - 0 to 10V; 1; 0 to 20 mA
Protection	Overcurrent (3 modes) Overload (2 modes) Undervoltage Ground-fault Motor stall Output phase loss	Digital output	6 open collector, 24 VDC 1A
Operating temperature	14° to 104°F (-10° to 40°C)	Relay outputs	2; 30 VDC - 230 VAC .3A
		Communication port	2; RS 485, RJ45 (modbus)
		Communication interface options	Modbus®(included), LONWORKS® JCI N2, DeviceNet, BACnet® MS/TP, BACnet® IP, Profibus and FTP.
		Open expansion slots	1
		NEMA Ratings	NEMA 1*
		Agency Approvals	UL and cUL listed, file #E131592, CE, RoHS
		Warranty	2 years

* For NEMA 3R and NEMA 12 enclosures, and 18-pulse drive products, information available on our Kele website www.kele.com.

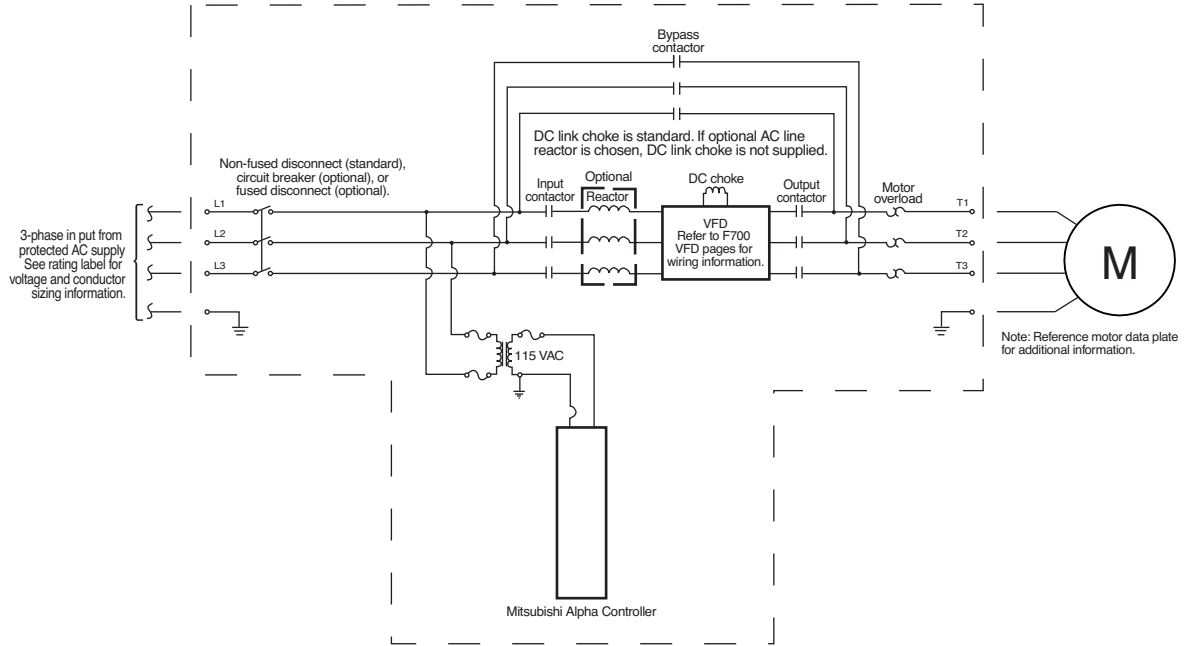
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HVAC BYPASS SYSTEM - NEMA1
POW-R-GATE SERIES



DEVICE WIRING

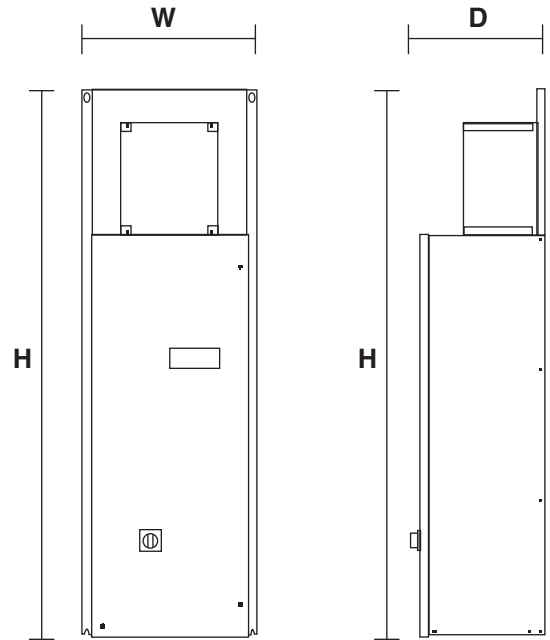


ORDERING INFORMATION

MODEL	DESCRIPTION
F1	MITSUBISHI Pow-R-Gate integrated VFD and bypass system
C	Circuit Breaker
D	Non-fused disconnect (standard)
F	Fused Disconnect
	2V 200-220 VAC 50 Hz, 200-240 VAC 60 Hz
	4V 380 to 480 VAC 50/60 Hz
	001 1 hp
	002 2 hp
	003 3 hp
	005 5 hp
	007 7.5 hp
	010 10 hp
	015 15 hp
	020 20 hp
	025 25 hp
	030 30 hp
	040 40 hp
	050 50 hp (480V only)
	060 60 hp (480V only)
	075 75 hp (480V only)
	B Three-contactor bypass
	N No bypass
	D DC choke
	3 3% Line reactor
	5 5% Line reactor
	LN LonWorks
	ET Ethernet: BACNet IP Modbus TCP/IP ProfiNET
	RS RS 485: Metasys N2 Siemens FLN BACNet MS/TP

Example: F1D4V030BDLN, NEMA1 disconnect, 380-480 VAC, 30HP with three-contactor bypass, DC choke and LonWorks.

DIMENSIONS



Overall Dimensions

230 VAC	480 VAC	H x W x D in (cm)	Wt (kg)
1-5 hp	1-10 hp	32.3 x 12.5 x 10.8 (82.0 x 31.8 x 27.4)	70 (31.8)
7.5-15 hp	15-25 hp	50 x 16.5 x 13 (106.2 x 21.3 x 31.8)	150 (68.0)
20-40 hp	30-75 hp	60.3 x 25.5 x 13.8 (153.2 x 64.8 x 35.1)	200 (90.7)

13

MOTOR CONTROLS

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