



MOTOR CONTROLS

VARIABLE FREQUENCY DRIVES

F700

DESCRIPTION

Mitsubishi Electric Drives offer class-leading technology to save energy in pump and fan control. The **F700** series is built to optimize 3-phase motor control, maximizing efficiency by calculating the ideal output voltage for any motor load. Drives are available in various voltage and horsepower ranges, offering versatility for use from the simplest to the most demanding applications.

Program with confidence and ease using the rotary setting dial. These drives are designed for 10 years of maintenance free operation - even in harsh environments. Uses include commercial HVAC, pump and fan, water treatment, and even light constant-torque loads.

FEATURES

- **NEMA 1 UL Plenum rated enclosure**
- **UL and cUL listed for either single- or three-phase input**
- **Easy DU07 programming dial or configuration unit (optional) available**
- **Bi-directional windmill coasting motor restart**
- **Enhanced energy savings with optimum excitation control**
- **Power dip ride-through**
- **Overvoltage avoidance**
- **Regeneration avoidance**
- **Remote I/O capability**
- **Optional RS-485 connections**
- **Built in EMC filter**
- **Standalone < 30hp**
- **PID sleep mode**
- **Pre-soak mode**
- **Multiple communication interfaces available**



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SPECIFICATIONS

Voltage	Three-phase 200-240 VAC 60 Hz Three-phase 200-220 VAC 50 Hz Three-phase 380-480 VAC 50/60 Hz	Digital inputs	12; sinking or sourcing 24 VDC
Motor rating	1.0 to 250 hp	Analog outputs	2; selectable -0 - 10V or 4 - 20 mA DC
Acceleration time	0-3600 seconds, linear or S-pattern	Digital outputs	5 each open collector, rated 1A @ 24 VDC
Deceleration time	0-3600 seconds, linear or S-pattern	Relay outputs	2 each SPDT, contacts rated 0.3A @ 30 VDC or 30-230 VAC
Starting torque	120% at 3 Hz	Communication ports	RJ45 jacks for RS485 applications
Frequency	0.5 Hz to 400 Hz	Communication interface options	Modbus® (included®/(included), LONWORKS®, JCI N2, DeviceNet, BACnet® MS/TP or IP, Profibus and FTP.
Operating temperature	14° to 122°F (-10° to 50°C)	Open expansion slots	1 slot (see option cards in ordering information)
Humidity	90% RH or less (non-condensing)	Agency approvals	UL and cUL listed, file #E131592, CE, CSA, RoHS
Enclosure	NEMA 1 plenum rated	Warranty	1 year
Analog inputs	3 configurable terminals (1, 4 and 2)		
Voltage	0 to +/-10 VDC 0 to +/-5 VDC		
Impedance	200 kΩ		
Current	0-20 or 4-20 mA		
Max Load	250Ω		

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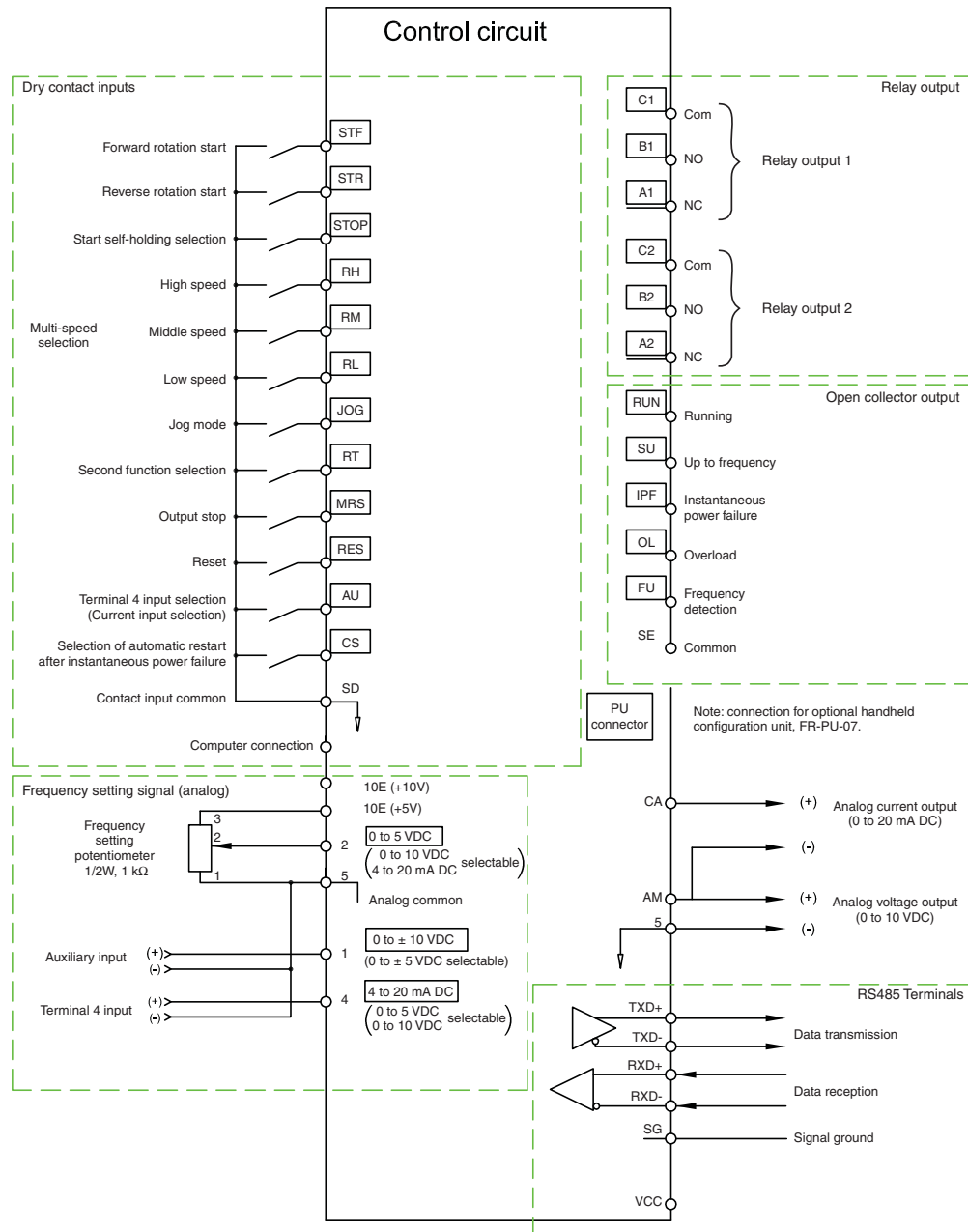
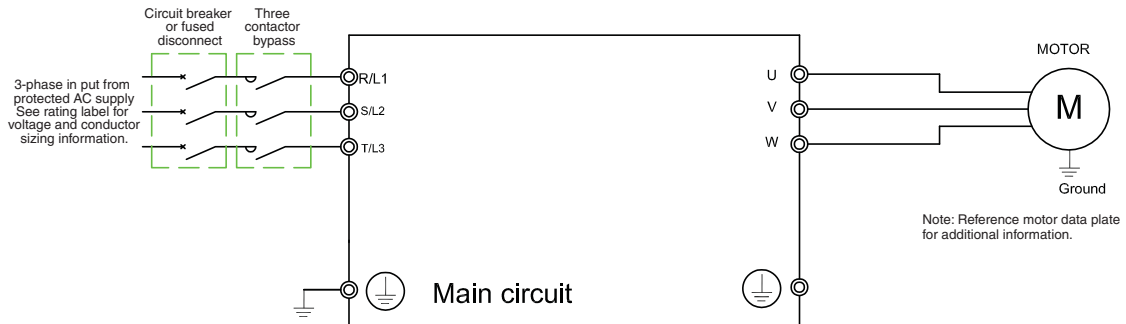
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TERMINAL CONNECTION





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ORDERING INFORMATION

Model	Volts	Motor HP	kW	Motor current	Frame size	Dimensions in (cm)			Plenum rated	Heat sink ¹ optional
						H	W	D		
FR-F720-00046-NA	240	1	0.75	4.2	A	10.2 (26.0)	4.3 (11.0)	4.3 (11.0)	x	
FR-F720-00077-NA	240	2	1.5	6.8	B	10.2 (26.0)	4.3 (11.0)	4.9 (12.5)	x	
FR-F720-00105-NA	240	3	2.2	9.6	C	10.2 (26.0)	5.9 (15.0)	5.5 (14.0)	x	FR-A7CN01
FR-F720-00167-NA	240	5	3.7	15.2	C	10.2 (26.0)	5.9 (15.0)	5.5 (14.0)	x	FR-A7CN01
FR-F720-00250-NA	240	7.5	5.5	22	C	10.2 (26.0)	5.9 (15.0)	5.5 (14.0)	x	FR-A7CN01
FR-F720-00340-NA	240	10	7.5	28	D	10.2 (26.0)	8.7 (22.)	6.7 (17.0)	x	FR-A7CN02
FR-F720-00490-NA	240	15	11	42	D	10.2 (26.0)	8.7 (22.)	6.7 (17.0)	x	FR-A7CN02
FR-F720-00630-NA	240	20	15	54	E	11.8 (30.0)	8.7 (22.)	5.5 (19.0)	x	FR-A7CN03
FR-F720-00770-NA	240	25	18.5	68	F	15.8 (40.0)	9.8 (25.0)	7.5 (19.0)	x	FR-A7CN04
FR-F720-00930-NA	240	30	22	80	F	15.8 (40.0)	9.8 (25.0)	7.5 (19.0)	x	FR-A7CN04
FR-F720-01250-NA	240	40	30	104	F	15.8 (40.0)	9.8 (25.0)	7.5 (19.0)	x	FR-A7CN04
FR-F720-01250-NAN1	240	40	30	104	F	15.8 (40.0)	9.8 (25.0)	7.5 (19.0)	x	FR-A7CN04
FR-F720-01540-NA	240	50	37	130	G	21.7 (55.0)	12.8 (32.5)	7.7 (19.5)	-	-
FR-F720-01540-NAN1	240	50	37	130	G	21.7 (55.0)	12.8 (32.5)	7.7 (19.5)	x	-
FR-F720-01870-NA	240	60	45	154	H	21.7 (55.0)	17.1 (43.5)	9.8 (25.0)	-	-
FR-F720-01870-NAN1	240	60	45	154	H	21.7 (55.0)	17.1 (43.5)	9.8 (25.0)	x	-
FR-F720-02330-NA	240	75	55	192	H	21.7 (55.0)	17.1 (43.5)	9.8 (25.0)	-	-
FR-F720-02330-NAN1	240	75	55	192	H	21.7 (55.0)	17.1 (43.5)	9.8 (25.0)	x	-
FR-F720-03160-NA	240	100/125	75	248	K	29.1(74.0)	18.3 (46.5)	14.2 (36.0)	-	-
FR-F720-03800-NA	240	125	90	312	K	29.1(74.0)	18.3 (46.5)	14.2 (36.0)	-	-
FR-F720-04750-NA	240	150	110	360	K	29.1(74.0)	18.3 (46.5)	14.2 (36.0)	-	-
FR-F740-00023-NA	480	1	0.75	2.1	C	10.2 (26.0)	5.9 (15.0)	5.5 (14.0)	x	FR-A7CN01
FR-F740-00038-NA	480	2	1.5	3.4	C	10.2 (26.0)	5.9 (15.0)	5.5 (14.0)	x	FR-A7CN01
FR-F740-00052-NA	480	3	2.02	4.8	C	10.2 (26.0)	5.9 (15.0)	5.5 (14.0)	x	FR-A7CN01
FR-F740-00083-NA	480	5	3.7	7.6	C	10.2 (26.0)	5.9 (15.0)	5.5 (14.0)	x	FR-A7CN01
FR-F740-00126-NA	480	7.5	5.5	11	C	10.2 (26.0)	5.9 (15.0)	5.5 (14.0)	x	FR-A7CN01
FR-F740-00170-NA	480	10	7.5	14	D	10.2 (26.0)	8.7 (22.)	6.7 (17.0)	x	FR-A7CN02
FR-F740-00250-NA	480	15	11	21	D	10.2 (26.0)	8.7 (22.)	6.7 (17.0)	x	FR-A7CN02
FR-F740-00310-NA	480	20	15	27	E	11.8 (30.0)	8.7 (22.)	5.5 (19.0)	x	FR-A7CN03
FR-F740-00380-NA	480	25	18.5	34	E	11.8 (30.0)	8.7 (22.)	5.5 (19.0)	x	FR-A7CN03
FR-F740-00470-NA	480	30	22	40	F	15.8 (40.0)	9.8 (25.0)	7.5 (19.0)	x	FR-A7CN04
FR-F740-00620-NA	480	40	30	52	F	15.8 (40.0)	9.8 (25.0)	7.5 (19.0)	x	FR-A7CN04
FR-F740-00770-NA	480	50	37	65	G	21.7 (55.0)	12.8 (32.5)	7.7 (19.5)	-	-
FR-F740-00770-NAN1	480	50	37	65	G	21.7 (55.0)	12.8 (32.5)	7.7 (19.5)	x	-
FR-F740-00930-NA	480	60	45	77	H	21.7 (55.0)	17.1 (43.5)	9.8 (25.0)	-	-
FR-F740-00930-NAN1	480	60	45	77	H	21.7 (55.0)	17.1 (43.5)	9.8 (25.0)	x	-
FR-F740-01160-NAN1	480	75	55	96	H	21.7 (55.0)	17.1 (43.5)	9.8 (25.0)	x	-
FR-F740-01800-NA	480	100	75	124	H	21.7 (55.0)	17.1 (43.5)	9.8 (25.0)	-	-

CONFIGURATION TOOLS

MODEL	DESCRIPTION
FR-PU07	Hand held drive configuration unit for F700 Series
FR-PU07BB-L	Hand held drive configuration unit for F700 Series, battery powered version
FR-CONFIGURATOR	VFD Setup software

COMMUNICATIONS MODULES

MODEL	DESCRIPTION
FR-A7N-ETH	Ethernet module for Modbus or BACnet over IP, F700 Series
FR-A7N-XLT	RS485 module for Modbus RTU, BACnet MS/TP, JCI N2, Siemens P1, F700 Series
FR-A7NL	LonWorks module, F700 Series

OPTION CARDS

MODEL	DESCRIPTION
FR-A7AR	F700 Relay output card
FR-A7AX	F700 12-Bit digital input card
FR-A7AY	F700 Digital and analog output card
FR-A7AZ	F700 OPT ±10V out, 16-bit analog in
FR-CB201	Cable for FR-PU07 configuration module, 1m
FR-CB203	Cable for FR-PU07 configuration module, 3m
FR-CB205	Cable for FR-PU07 configuration module, 5m
SC-FRPC	Serial communication cable

¹Note: heat sink required when VFD installed in an enclosure without adequate venting. Heat sink will aid in heat dissipation.

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