

# Matrix Controller, MC-1000



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### Matrix Modules Controlled

Inverters	INV-4810, INV-4810E, INV-4815, INV-4815E
Static Switch	STS-050

### Electrical Specifications

DC nominal voltage	48Vdc
DC voltage range	30Vdc - 72Vdc
Over current protection	2A Fuse

### User Interface

Display	3" Backlit LCD with 4 lines x 16 Characters
LED	3 (Green, Yellow, Red)
Function Keys	4 (Enter, Esc, Up, Down)
Buzzer	Audible Alarm on fault (Enable/Disable)
Languages	English, Simple Chinese, Traditional Chinese

### Environmental Requirements

Operating temperature range	-20°C to 70°C (-4°F to 158°F) -5°C to 50 °C (23°F to 122°F), full performance
Storage temperature	-40°C to 85°C (-40°F to 185°F)
Operating humidity	90% Relative Humidity (non condensing)
Operating attitude	1500m
Audible noise	55dB ETS 300 753, class 3.1

### Mechanical

Dimension (D, W, H):	277mm, 87.9mm, 43.5mm (10.8", 3.4", 1.7")
Weight:	0.5kg (1.1lb)

**MC1000 Status Display**

Inverter values	Serial Number Output Voltage (Vac) Output Current (A) Output Frequency (Hz) Output Power (VA) Input Voltage (Vdc) Output Power (%) Heat sink Temperature (°C) Ambient Temperature (°C) Run Time (hour) Power Limit (%) Hardware Revision Software Revision
Static Switch values	Serial Number Output Voltage (Vac) Output Current (A) Output Frequency (Hz) Output Power (VA) Output Power (%) Heat sink Temperature (°C) Run Time (hour) Hardware Revision Software Revision Mains AC (Vac) Mains Frequency (Hz) Inverter AC (Vac) Inverter Frequency (Hz) Maintenance Bypass Position Running Mode (inverter/mains) Default Voltage (Vac) Default Frequency (Hz) Priority (inverter/mains)
Controller values	Input Voltage (Vdc) Ambient Temperature (°C) Hardware Revision Software Revision Active Alarms Alarm History

**MC1000 configuration settings (Default Values)**

Inverter	120Vac System	230Vac System
Inverter output voltage	120V	230V
Inverter output frequency	60Hz	50Hz
Inverter AC output high	138V	264V
Inverter AC output low	100V	185V
Inverter shut down - low input Vdc	40V	40V
Inverter shut down - high input Vdc	60V	60V
Inverter Power Limit	100%	100%
Inverter Fan Speed	Normal	Normal
Inverter On/Off	On	On
Static Transfer Switch		
STS Mains high	138V	264V
STS Mains low	100V	185V
STS High AC from Inverter	138V	264V
STS Low AC from Inverter	100V	185V
STS Fan Speed	Normal	Normal
STS priority	on-line (Inverter)	on-line (Inverter)

System Parameters	
RS232 communication baudrate	2400bps
RS422 address	9999
Button tone	On
Time/Date	hh:mm, dd,mm,yy
LCD brightness value	45
Language	English
Password	1234
Dry contact 0 Alarm	Inverter over load
Dry contact 1 Alarm	Inverter unavailable
Dry contact 2 Alarm	Inverter fan fault
Dry contact 3 Alarm	STS fan fault
Dry contact 4 Alarm	Inverter power limit

### Available Alarms

Alarm Interface	5x User Definable form C relay outputs
Controller Alarms	DC voltage low, Controller temperature high, Controller eeprom fault, DC voltage high, Controller CAN bus off
Inverter Alarms	Inverter fault, Inverter over loaded, Inverter fan fault, Inverter power limit, DC input abnormal, Inverter low volt off
Static Transfer Switch Alarms	Inverter unavailable, Mains unavailable, Output overload, OP short circuit, K1 relay open, STS SCR1 short, STS SCR2 short, Inverter bypass mode, STS temperature high, MBS position abnormal, STS fan fail, STS running in fault mode, STS EEPROM fault, STS control power fail

### MC1000 Configuration Settings (Adjustment Ranges)

Inverter	120Vac System			230Vac System			
	110	115	120	208	220	230	240
Inverter output voltage	110	115	120	208	220	230	240
Inverter output frequency	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz
Inverter AC output high	117~127	122~132	127~138	220~240	233~252	244~264	254~276
Inverter AC output low	89~105	93~110	100~114	176~198	176~209	185~218	193~228
Inverter shut down - low input	39~44Vdc						
Inverter shut down - high input	59~61Vdc						
Inverter Power Limit	0%~100%						
Inverter Fan Speed	Normal						
Inverter On/Off	On						

Static Transfer Switch	120Vac System			230Vac System			
	110	115	120	208	220	230	240
STS Mains high	117~127	122~132	127~138	220~240	233~252	244~264	254~276
STS Mains low	89~105	93~110	100~114	176~198	176~209	185~218	193~228
STS High AC from Inverter	117~127	122~132	127~138	220~240	233~252	244~264	254~276
STS Low AC from Inverter	89~105	93~110	100~114	176~198	176~209	185~218	193~228
STS Fan Speed	Normal						
STS priority	On-line (Inverter)						

System Parameters	
RS232 communication baudrate	2400bps, 4800bps, 9600bps
RS422 address	0000~9999
Button tone	on,off
Time/Date	hh:mm, dd,mm,yy
LCD brightness value	00~99
Language	English, Simple Chinese, Traditional Chinese
Password	0000~9999

### Compliances

Safety	EN 60950-1
EMC - immunity	
Electrostatic Discharge	EN 61000-4-2
Radiated radio frequency	EN 61000-4-3
Electrical fast Transients	EN 61000-4-4
Surge	EN 61000-4-5
Conducted Radio Frequency	EN 61000-4-6
EMC – emissions	
Emissions	EN 55022 (Class B)
Conducted Emissions (DC)	EN 300 386
Harmonics	EN 61000-3-2
Fluctuation and Flicker	EN 61000-3-3
Low-Frequency Conducted Disturbances	EN 61000-2-2

### Certifications

Europe	CE-mark
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