

Facility Explorer Controllers Platform

MD20

Master Display

The Master Display (MD20) is a supervisory controller of the Facility Explorer system.

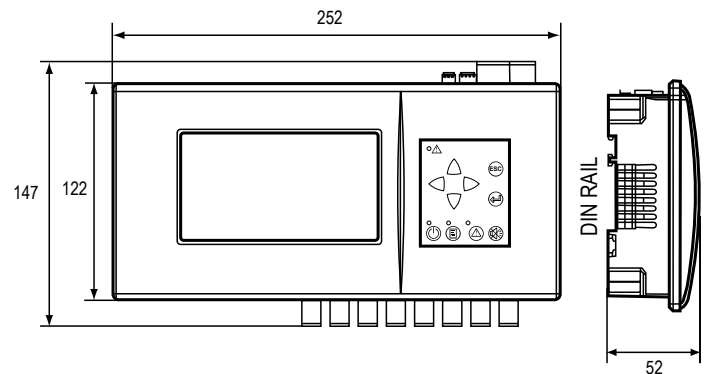
The Master Display monitors and interacts with a network of Heating, Ventilating, Air Conditioning, and Refrigeration (HVACR) controllers to form a complete building or equipment control system and provides operating data to local and remote users and operators via a number of different media options. The device has an integral graphic display along with a number of operating keys and indicators that present data to the user in a standard or customized way to view and acknowledge alarms, display historical trend data, and to override the operation of the monitored equipment. An embedded Web server enables you to access data from a Web browser by telephone line and modem or by direct connection to the Master Display. You can view current operating data, including active alarms, as well as trend logs and the event history file. You can also acknowledge alarms and send commands to the controlling devices using the user identification and password control on the Web page.

The Master Display can also send alarm messages by e-mail, by Short Message Service (SMS) to a mobile telephone, by fax, and to a printer for a local record of events as they occur. The Master Display is freely programmable using the FX Tools Pro software package and the functions include centralized control and management of distributed applications as well as the display and communication features.



Features

- Embedded Web server
- Communication services
- Supervisory options
- Monitoring and control
- Distributed application
- Onboard trend and event logging
- Integral display and keyboard
- Local printer option
- Freely programmable



Dimensions in mm

Ordering Codes	Description
LP-MD20D00-000C	Includes RS-232C port (for download and commissioning only), 2 DIs and 2 relay DOs
LP-MD20D01-000C	Includes N2 Open supervisory interface, 2 DIs and 8 relay DOs
LP-MD20D02-000C	Includes RS232 (for download and commissioning only), LonWorks® interface, 2 DIs and 8 relay DOs
LP-MD20D03-000C	Includes RS-232 (for modem/personal computer), 2DIs and 8 relay DOs
LP-MD20D04-000C	Includes RS232 for modem/personal computer, LonWorks® interface, 2 DIs and 8 relay DOs
LP-MD20D05-000C	Includes N2 Open supervisory interface, LonWorks® interface, 2 DIs and 8 relay DOs

MD20

Master Display

Expansion Modules

Ordering Codes	Description
LP-XT91D00-000C	Extension module
LP-XP91D02-000C	Expansion board: 6AI, 2AO
LP-XP91D03-000C	Expansion board: 8DO (triacs)
LP-XP91D04-000C	Expansion board: 4DI, 4DO (triacs)
LP-XP91D05-000C	Expansion board: 8DI
LP-XP91D06-000C	Expansion board: 4DO (relays) 230 VAC (Europe only)

Software

Ordering Codes	Description
LP-FXTPRO-0	FX Tools Pro CD-Rom (FX Builder, FX Builder Express, FX CommPro N2, FX CommPro LON, FX CommPro BACnet) New User
LP-FXTPRO-6	FX Tools Pro CD-Rom (FX Builder, FX Builder Express, FX CommPro N2, FX CommPro LON, FX CommPro BACnet) Upgrade

Accessories

Ordering Codes	Description
LP-KIT020-000C	Panel mount kit for master display
LP-KIT007-001C	Link cable for connection of MD20 to standard modem with DB9 connectors, 1.5 m
LP-KIT007-013C	Null Modem link cable: RS-232, 3 m
LP-KIT007-014C	Null Modem link cable: RS-232, 15 m
LP-KIT007-015C	Commissioning adapter
LP-KIT100-000C	FX Programming Key
LP-KIT090-000C	Modem GSM 900/1800 FastTrack
LP-KIT007-002C	Link Cable for connection of GSM modem to FX16 and Master Display
LP-KIT090-001C	GSM modem plug-in antenna
LP-KIT090-003C	GSM modem magnetic mount antenna – 2.5 m cable
LP-KIT090-004C	GSM modem panel mount antenna – 5 m cable
LP-KIT090-005C	Power adapter for GSM modem 230 VAC/12 VDC with central European plug

Technical Specifications - I/O details

Terminals	Channel	Type	Remark/Application
Binary (Digital) Input (BI)			
21-24	BI1, BI2,	Voltage free contacts	Transition counter function: Minimum 10 ms on and 10 ms off for detection (50 Hz) Prescaler function: max division by 100
Power Supply			
31 32 33	Earth Ground 24 ~ Com 24 ~ Hot	24 VAC Power Supply	At maximum load
Binary (Digital) Output (BO)			
1,2 3,4 5,6 7,8 9,10 11,12 13,14 15,16	BO1, BO2, BO3, BO4, BO5, BO6, BO7, BO8	SPST 5(1)A power relays	Rating (resistive): 5A 250 VAC Expected electrical life: 50,000 operations Dielectric strength: coil-contacts: 4000 Vrms for 1 min

MD20 Master Display

Technical Specifications

Product	MD20 Master Display
Power Supply	24 VAC $\pm 15\%$ 50/60 Hz – Safety extra low voltage (SELV) Class 2 in North America
Power Consumption	15 VA maximum
Enclosure Protection Class Enclosure Material	Front panel mounted: IP54 Rear of panel: IP30 – IEC529 Self-extinguishing to UL94 5VB
Ambient Operating Conditions	-20 to +50 °C, 10 to 95% RH (non condensing)
Ambient Storage Conditions	-20 to +70 °C, 10 to 95% RH (non condensing)
Dimensions (H x W x D)	122 mm x 252 mm x 52 mm
Weight (in delivery package)	1 kg
Display Screen Resolution	240 x 128 Pixels
Supervisory Port	RS-485 N2 Open Protocol at 9600 Baud
Communications Port	RS-232C PPP Protocol at 9600 Baud for GSM Modem
Printer Port Comm. Speed	9600 Baud
LONWORKS® Interface	FTT (Free Topology Transceiver) at 78 Kbps. MIP interface between Neuron® chip and controller microprocessor
Local Link Bus	RS-485 N2 Open/N2 System91 Protocol at 9600 Baud
I/O Expansion Bus	RS-485 N2 XT Bus Protocol at 9600 Baud
Output Relay Contacts	SPST 250 VAC 5(1)A (Minimum closure time 100 ms)
Input Binary Contacts	Voltage-free, 1k ohm maximum
Power Supply and I/O Terminals	Screw terminal connectors for max 1.5 mm ² (AWG 16) wire
Communication Terminals	RS-485 (N2) and LonWorks (FTT) – screw terminals for max 0.8 mm (AWG20) wire
CE Compliance	2004/108/EC: EN 61000-6-2:2007, EN 61000-6-3:2007 – 2006/95/EC: EN 60730-1:2001
UL Compliance	UL916