XM Monitoring Modules Specifications

Catalog Numbers 1440 series

The XM series of intelligent I/O modules process, in real-time, the critical parameters used to assess the current health and predict the future health of industrial machinery—providing machinery protection and reducing downtime. Use the XM modules in a standalone system, or integrate them with existing automation and control systems.

Type	Module	Cat. No.	Page
Measurement modules	XM DYN Dynamic Measurement Module	1440-DYN02-01RJ	3
	XM-124 Standard Dynamic Measurement Module	1440-SDM02-01RA	6
	XM-160 Direct (overall) Vibration Module (1440-VDRS06-00RH)	1440-VDRS06-00RH	10
	XM-161 Direct (overall) Vibration Module with 4…20 mA Out (1440-VDRS06-06RH)	1440-VDRS06-06RH	10
	XM-162 Direct (overall) Vibration Module with Proximity Probe Power (1440-VDRP06-00RH)	1440-VDRP06-00RH	10
	XM-220 Dual Speed Module	1440-SPD02-01RB	13
Process modules	XM-320 Position Module	1440-TPS02-01RB	16
	XM-360 Process Module	1440-TPR06-00RE	19
Temperature modules	XM-361 Universal Temperature Module	1440-TUN06-00RE	22
	XM-362 Isolated Thermocouple Temperature Module	1440-TTC06-00RE	22
Relay modules	XM-440 Master Relay Module	1440-RMA00-04RC	25
	XM-441 Expansion Relay Module	1440-REX00-04RD	27
	XM-442 Voted EODS Relay Module	1440-REX03-04RG	29
Accessories	Terminal Bases	1440-TB-A, 1440-TB-B, 1440-TB-C, 1440-TB-D, 1440-TB-E, 1440-TB-G, 1440-TB-H, 1440-TBS-J	31
	Serial Configuration Utility	N/A	32
	Fuse Kit	1440-5AFUSEKIT	33
	Serial Communication Cable	1440-SCDB9FXM2	33
	ControlNet Adapter	1440-ACNR	34

Attribute	XM-220 (1440-SPD02-01RB)
Radiated RF immunity IEC 61000-4-3	10V/m with 1 kHz sine-wave 80% AM from 80…2000 MHz 10V/m with 200 Hz 50% Pulse 100% AM at 900 MHz 10V/m with 200 Hz 50% Pulse 100% AM at 1890 MHz 3V/m with 1 kHz sine-wave 80% AM from 2000…2700 MHz
EFT/B immunity IEC 61000-4-4	±2 kV at 5 kHz on power ports ±1 kV at 5 kHz on relay and shielded signal ports ±1 kV at 5 kHz on XMbus port
Surge transient immunity IEC 61000-4-5	±2 kV line-earth(CM) on relay and shielded signal ports ±2kV line-earth(CM) on XMbus port
Conducted RF immunity IEC 61000-4-6	10V rms with 1 kHz sine-wave 80% AM from 150 kHz…80 MHz
Enclosure type rating	None (open-style)
Voltage and current ratings	Supply: 24V DC, 0.3 A max, Class 2/SELV Relay: 120V AC, 0.5 A 110V DC, 0.5 A 30V DC, 1.0 A
Power dissipation	7 W max
Isolation voltage	250V (continuous), Basic Insulation Type, relay to all other circuits. Isolation between other circuits is not rated. Type tested at 1500V AC for 60 s
Wiring category[1]	2 - on relay and signal ports 3 - on serial and power ports 2 - on XMbus ports
Wire type	Signal connections: shielded Power and relay connections: unshielded
Pilot duty rating	Relay port: Not rated
North American temp code	T4A
IEC temp code	T4
Physical	
Terminal base	1440-TB-B
Dimensions (H x W x D), approx	97 x 94 x 94 mm (3.8 x 3.7 x 3.7 in.)

Attribute	XM-220 (1440-SPD02-01RB)
Certification[2] (when product is marked)	**Description**
c-CSA-us	CSA Certified Process Control Equipment for Class I, Division 2 Group A,B,C,D Hazardous Locations, certified for US and Canada. See CSA File 150115.
CE	European Union 2004/108/EC EMC Directive, compliant with: • EN 61326-1; Meas./Control/Lab., Industrial Requirements • EN 61000-6-2; Industrial Immunity • EN 61000-6-4; Industrial Emissions • EN 61131-2; Programmable Controllers (Clause 8, Zone A & B) European Union 2006/95/EC LVD, compliant with: EN 61131-2; Programmable Controllers (Clause 11)
C-Tick	Australian Radiocommunications Act, compliant with: • AS/NZS CISPR 11; Industrial Emissions
Ex	European Union 94/9/EC ATEX Directive, compliant with: • EN 60079-15; Potentially Explosive Atmospheres, Protection "n" • EN 60079-11; Explosive Atmospheres, Protection "i" • EN 60079-0; General Requirements • II 3 G Ex nAC [ic] IIC T4X Gc • when used at or below 60V AC or 75V DC
KC	Korean Registration of Broadcasting and Communications Equipment, compliant with: • Article 58-2 of Radio Waves Act, Clause 3

(1) Use this Conductor Category information for planning conductor routing. Refer to Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

(2) See the Product Certification link at http://www.rockwellautomation.com for Declarations of Conformity, Certificates and other certification details.

Attribute	XM-320 (1440-TPS02-01RB)
Configuration	
Nonvolatile configuration	A copy of the module configuration is retained in nonvolatile memory from which the configuration is loaded upon powerup The configuration stored in nonvolatile memory can be deleted only by a module-reset command sent via a serial interface, using the Serial Configuration utility or via a DeviceNet interface from any compliant software application
Power	
Module	24V DC
Consumption	200 mA, max 165 mA, typical
Heat production	5.28 W (18 BTU/hr), max 3.96W (13.5 BTU/hr), typical
Transducer	Isolated 24V DC, user configurable with wiring
Environmental	
Temperature, storage	-40…85 °C (-40…185 °F)
Conformal coating	All printed circuit boards are conformally coated in accordance with IPC-A-610C
Temperature, operating IEC 60068-2-1 (Test Ad, Operating Cold), IEC 60068-2-2 (Test Bd, Operating Dry Heat), IEC 60068-2-14 (Test Nb, Operating Thermal Shock)	-20…65 °C (-4…149 °F)
Temperature, surrounding air, max	65 °C (149 °F)
Temperature, nonoperating IEC 60068-2-1 (Test Ab, Unpackaged Nonoperating Cold), IEC 60068-2-2 (Test Bb, Unpackaged Nonoperating Dry Heat), IEC 60068-2-14 (Test Na, Unpackaged Nonoperating Thermal Shock)	-40…85 °C (-40…185 °F)
Relative humidity IEC 60068-2-30 (Test Db, Unpackaged Damp Heat)	5…95% noncondensing
Vibration IEC 60068-2-6 (Test Fc, Operating)	2 g @ 10…500 Hz
Shock, operating IEC 60068-2-27 (Test Ea, Unpackaged Shock)	15 g
Shock, nonoperating IEC 60068-2-27 (Test Ea, Unpackaged Shock)	20 g
Emissions CISPR 11 (IEC 61000-6-4)	Class A
ESD immunity IEC 61000-4-2	8 kV contact discharges 8 kV air discharges
Radiated RF immunity IEC 61000-4-3	10V/m with 1 kHz sine-wave 80% AM from 80…2000 MHz 10V/m with 200 Hz 50% Pulse 100% AM at 900 MHz 10V/m with 200 Hz 50% Pulse 100% AM at 1890 MHz 3V/m with 1 kHz sine-wave 80% AM from 2000…2700 MHz
EFT/B immunity IEC 61000-4-4	±2 kV at 5 kHz on power ports ±1 kV at 5 kHz on relay and shielded signal ports ±1 kV at 5 kHz on XMbus port
Surge transient immunity IEC 61000-4-5	±1 kV line-earth(CM) on relay ports ±2 kV line-earth(CM) on shielded signal ports ±2 kV line-earth(CM) on XMbus port
Conducted RF immunity	IEC 61000-4-6: 10V rms with 1 kHz sine-wave 80% AM from 150 kHz…80 MHz
Enclosure type rating	None (open-style)
Voltage and current ratings	Supply: 24V DC, 0.2 A max, Class 2/SELV Relay: 120V AC, 50/60Hz, 0.5 A Res 110V DC, 0.3 A Res 30V DC, 1.0 A Res
Power dissipation	5.3 W max
Isolation voltage	250V (continuous), Basic Insulation Type, relay to all other circuits. Isolation between other circuits is not rated. Type tested at 1500V AC for 60 s
Wiring category[1]	2 - on relay and shielded signal ports 3 - on Serial and power ports 2 - on XMbus ports
Wire type	Signal connections: shielded Power and relay connections: unshielded
Pilot duty rating	Relay port: Not rated
North American temp code	T4A
IEC temp code	T4
Physical	
Terminal base	1440-TB-B