ioPAC 8020 Series (RM/KM) Modules

Rugged modules for the ioPAC 8020 Series

Features and Benefits

- Compliant with EN 50121-3-2, EN 50121-4, and a portion of EN 50155 specifications
- Rugged and compact design for harsh environments
- Expand the I/O and communication capabilities of your ioPAC 8020 Series device
- Wide operating temperature range: -40 to 75°C (-40 to 167°F)
- Up to 4 3-in-1 RS-232/422/485 serial ports
- Supports unmanaged switch functionality

Certifications

EN 50121-4   c(UL)us LISTED   CE   FC

Introduction

Moxa's ioPAC 8020 Series (RM/KM) Modules can be installed in ioPAC 8020 Series systems. Modules are available with DI/Os, AIs, serial interfaces, and unmanaged switches, giving users a wide variety of options to choose from and allowing them to select the I/O combination that best fits their target application. All RM/KM modules are designed for railway industry applications, and as such, are compliant with EN 50121-3-2, EN 50121-4, and a portion of the EN 50155 specifications. In addition, these modules all support a wide operating temperature range of -40 to 75°C for reliable operation even in harsh environments.

Specifications

Input/Output Interface

Analog Input Channels	RM-3802-T/3810-T: 8
Digital Input Channels	RM-1050-T: 10 RM-1602-T: 16
Digital Output Channels	RM-2600-T: 16
Isolation	RM Series: 3k VDC or 2K Vrms
Ethernet Ports	KM-2430-T: 4

Digital Inputs

Channel-to-Channel Isolation	RM-1050-T: 110 VDC
Points per COM	RM-1050-T: 10 channels RM-1602-T: 8 channels
Wet Contact (DI to COM)	RM-1602-T: On: 10 to 30 VDC RM-1602-T: Off: 0 to 3 VDC
Wet Contact (DI+ to DI-)	RM-1050-T: On: 50 to 175 VDC RM-1050-T: Off: 0 to 15 VDC
Voltage	RM-1050-T: 110 VDC RM-1602-T: 24 VDC
Connector	Spring-type Euroblock terminal

I/O Mode	DI
Sensor Type	Wet Contact (NPN or PNP)

Digital Outputs

Connector	Spring-type Euroblock terminal
Current Rating	200 mA per channel
I/O Type	Sink
I/O Mode	DO
Voltage	24 VDC
Over-Current Protection	2.6 mA @ 25°C

Analog Inputs

Accuracy	±0.1% FSR @ 25°C ±0.3% FSR @ -40 to 75°C
Input Impedance	RM-3802-T: 120 ohms RM-3810-T: 10 mega-ohms
Connector	Spring-type Euroblock terminal
I/O Type	Differential
Input Range	RM-3802-T: 4 to 20 mA RM-3810-T: 0 to 10 VDC
Resolution	16 bits
Sampling Rate	All channels: 12 samples/sec Per channel: 1.5 samples/sec

Ethernet Interface

Standards	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) IEEE 802.3x for flow control
10/100BaseT(X) Ports (M12 D-coded 4-pin female connector)	4

Ethernet Software Features

Processing Type	Store and Forward

Physical Characteristics

Dimensions	25 x 128.2 x 85.5 mm (0.98 x 5.05 x 3.37 in)
Weight	Under 80 g
Wiring	I/O cable, 14 to 28 AWG

Power Parameters

Power Consumption	KM-2430-T: 20 mA @ 24 VDC RM-1050-T: 7 mA @ 24 VDC RM-1602-T: 7 mA @ 24 VDC RM-2600-T: 10 mA @ 24 VDC RM-3802-T: 78 mA @ 24 VDC RM-3810-T: 78 mA @ 24 VDC

Environmental Limits

Operating Temperature	-40 to 75°C (-40 to 167°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

Standards and Certifications

EMC	EN 55032/24, EN 61000-6-2/-6-4
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-4 EFT: Power: 1 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF
Railway	EN 50121-4, EN 50155
Safety	UL 508
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6

MTBF

Time	KM-2430-T: 3,873,592 hrs RM-1050-T: 3,993,435 hrs RM-1602-T: 4,132,863 hrs RM-2600-T: 4,440,241 hrs RM-3802-T: 1,222,361 hrs RM-3810-T: 1,225,957 hrs
Standards	Telcordia SR332

Warranty

Warranty Period	5 years
Details	See www.moxa.com/warranty

Package Contents

Device	1 x ioPAC 8020 Series (RM/KM) module

Ordering Information

Model Name	Input/Output Interface	Type	Ethernet Standard
RM-1050-T	10 x DI	110 VDC, ch-to-ch isolation	–
RM-1602-T	16 x DI	24 VDC	–
RM-2600-T	16 x DO	24 VDC	–
RM-3802-T	8 x AI	4-20 mA	–
RM-3810-T	8 x AI	0-10V	–
KM-2430-T	4 x M12 LAN port	–	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) IEEE 802.3x for Flow Control