

## INTERFACES

RS232

RS485

Ethernet

USB

32 Discrete IN



## FEATURES

- RAY-1 can be used as stand-alone or as expansion module for MX-7, MX-5 and other our data loggers
- Independent data log (up to 8 MB) with real time stamp
- Supported interfaces: RS232, RS485, Discrete IN, Ethernet
- Remote communication over Ethernet (RJ45)
- Supported protocols: Modbus RTU, Modbus TCP/IP, SNTP, IEC60870-5-104:2000 and others
- Galvanically isolated interfaces and power supply

**RAY-1** data logger is designed for data logging and analyzing different kinds of discrete signals (limit switches, push buttons, selector switches or relay contacts) in a real time. Data logger supports RS232, RS485, Ethernet, USB interfaces and up to 32 discrete inputs channels and can be used as stand-alone device or as extension module. It can be connected to any of our data loggers like MX-7 or MX-5. For data exchange over Ethernet or any serial RS232/ RS485 interfaces, logger uses Modbus TCP/IP, Modbus RTU and other protocols.

## ORDERING CODE

RAY-1.	A	B.	C.	D.	E.	F
0 – None 1 – RS485 2 – RS232						
0 – None 2 – RS232						
0 – None 1 – Ethernet						
0 – None 1 – USB						
0 – None 1 – 4 discrete inputs 2 – 8 discrete inputs 3 – 12 discrete inputs 4 – 16 discrete inputs 5 – 20 discrete inputs 6 – 24 discrete inputs 7 – 28 discrete inputs 8 – 32 discrete inputs						
0 – None 1 – Real Time Clock (RTC)						

Example: **RAY-1.12.1.1.2.1** (RS485, RS232, Ethernet, USB, 8 Discrete IN, RTC)

## TECHNICAL SPECIFICATIONS

<b>Description</b>	<b>RAY-1 data logger</b>
CPU	ARM7
Flash	archive storage up to 8 MB, independent data storage without power about 5 years
<b>Interfaces</b>	
RS485 (1 port)	distance up to 1,2 km, max 32 transivers, speed up to 19,2 Kbits/s
RS232 (2 ports)	distance up to 15 m, speed up to 19,2 Kbit/s
Ethernet	10/100 Mbps, RJ45, distance up to 100 m
USB	type B, ver. 2,0
Discrete IN	32 sink contact
<b>Protocols</b>	
Modbus RTU, Modbus TCP/IP, IP, ICMP, UDP, TCP, DHCP, PPP, ARP, SNTP, IEC60870-5-104:2000	
<b>General</b>	
Power supply	9-36 VDC
Galvanic isolation	>1000V
Capacity	300mA max
<b>Certifications</b>	
Electromagnetic compatibility	EN 55022:2010
	EN 55024:2010
	EN 61000-4-2:2009
	EN 61000-4-3:2006
	EN 61000-4-3:2006/A1:2008
	EN 61000-4-3:2006/A2:2010
	EN 61000-4-4:2004
	EN61000-4-4:2004/A1:2010
Safety	EN 61000-4-6:2009
	EN 60950-1:2006+A1:2010+A11:2009+A12:2011
<b>Physical characteristics</b>	
Dimensions	197x128x50 mm
Weight	400 g
Mounting type	on DIN rail
Protection type	IP20
<b>Climate conditions</b>	
Operating temperature	-25 to +60°C
Storage temperature	-40 to +60°C
Humidity range	5 – 95%, non-condensing
<b>LED indication</b>	
Power	
Status of discrete input, for each port	
Serial ports read/write for each port	
Ethernet status	
<b>Other features</b>	
Real time clock	+
Warranty period	2 years