

Remote I/O

Remote I/O IS1+ CPU module

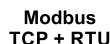
for Zone 1

9442/32-10-00 Art. No. 279953



- Supports PROFIBUS DP, PROFINET, Modbus TCP+RTU and EtherNet/IP™; incl. HART transmission and redundancy
- RS485-IS (max. 1.5 Mbit/s) and Ethernet 100BASE-TX (max. 100 Mbit/s) interfaces
- Extensive diagnostics based on NE 107
- Supports FDT/DTM, OPC UA and web servers for integration in asset management systems
- Extended ambient temperature range from -40 to +75 °C

MY R. STAHL 9442B



The 9442/32 CPU module functions as a gateway between the IS1+ Remote I/O system and the automation system. All supported communication protocols are in the CPU module and can be configured by the user. In addition to the process values, other information such as diagnostics, parameterisation and configuration is transmitted via the CPU module. The 9496 socket and the 9494 BusRail are used for communicating with the I/O modules. Integration in control systems and plant asset management tools is based on standards such as GSD, EDS, web servers and FDT/DTM.

Technical Data

Explosion Protection

Application range (zones)	1, 2
Ex interface zone	1, 2
IECEX gas certificate	IECEX PTB 22.0001 X
IECEX gas explosion protection	Ex ib [ia Ga] [ib Gb] IIC T4 Gb
ATEX gas certificate	PTB 21 ATEX 2004 X
ATEX gas explosion protection	Ex II 2 (1) (2) G Ex ib [ia Ga] [ib Gb] IIC T4 Gb
Certificates	ATEX (PTB), Brazil (ULB), IECEX (PTB), India (PESO)
Ship approval	BVIS, EU RO MR (DNV), KR, LR
Declaration of conformity	ATEX (EUK)
Installation	Zone 1

Electrical Data

Protocol setting	Via rotary switch S1
Redundancy	Full redundancy Line redundancy Supply redundancy
Type RS-485 connector	Sub-D connector
No. of pins RS-485 conn.	9
RS485 interface	As per PROFIBUS specification RS 485-IS
RS-485 interface protocol	Profibus DP V1 HART Profibus DP V0 Modbus RTU
Address range RS485	1 ... 127

Electrical Data

Copper RS485 transmission length/rate	1200 m at 9.6 to 93.75 kbit/s 1000 m at 187.5 kbit/s 400 m at 500 kbit/s 200 m at 1.5 Mbit/s 100 m at 12 Mbit/s
Transfer length/rate FO RS485	Approx. 2000 m at 1.5 Mbit/s
Ethernet interface connection	2 x RJ45 (EIA/TIA 568B) socket
USB version	USB 2.0 IS
Interface RJ45	Unmanaged switch function 100BASE-TX-IS
RJ45 protocols	MODBUS TCP EtherNet/IP™ PROFINET
Transfer rate RJ45	Max. 10/100 Mbit/s Auto-negotiation
Transfer length copper RJ45	100 m
Transfer length FO RJ45	2000 m multi mode 30 km single mode
USB interface	Type A socket
USB address setting	Identical to RS485 address
Max. USB transfer rate	480 (unece.unit.MBI)
Max. USB current	250 mA
USB protocols	Service bus

Auxiliary Power

Power supply	via base 9496 and PM 9445/32
Max. current consumption	300 mA
Max. power dissipation	5 W

Galvanic Isolation

Galv.sep. CPU to CPU (red.)AC	1500 V
Galv.sep. AUX PWR to CPU AC	1500 V

Device Specific Data

Software	IS1 device DTM IS Wizard Web server
Diagnostic/parameterisation functions	- Use the web server or IS1+ detect software to set the IP address (for Ethernet) - Web server - Load or read back configuration data and parameters in IS1+ field stations - Read inputs - Read and write outputs - Transmit diagnostics data (e.g. configuration error, hardware error, signal error) - Transmit HART commands from/to HART field devices - Firmware downloads using the web server
Diagnostic/parameterisation connectable software packages	- IS Wizard (via USB ServiceBus) - R. STAHL DTM devices with fdt frames (e.g. fdtContainer from M+M; Pactware) - AMS from Emerson Process Management - PDM from Siemens - PRM and Fieldmate from Yokogawa - FieldCare from Endress+Hauser - FDM from Honeywell

Device Specific Data

Retrievable parameters	Hardware revision Manufacturer Serial number Software revision Type
LED module requires maintenance	LED "M/S", blue
LED operating conditions	LED "PWR", green
LED data traffic automatic system	LED "AS EXCH", green
LED configuration	LED "CFG ERR", red
LED data traffic RS485	LED "RXTX X1 RS-485", green
LED port connection RJ45 port 1	LED "LINK X2 LAN P1", yellow
LED data traffic RJ45 port 1	LED "RXTX X2 LAN P1", green
LED port connection RJ45 port 2	LED "LINK X2 LAN P2", yellow
LED data traffic RJ45 port 2	LED "RXTX X2 LAN P2", green
LED USB data traffic	LED "RXTX X3 USB", green

Diagnostics

LED group error	LED "ERR", red
LED status	LED "STATUS", yellow

Ambient Conditions

Ambient temperature	-40 °C ... 65 °C (without mounting plate) -40 °C ... 70 °C (with 3 mm sheet steel mounting plate) -40 °C ... 75 °C (with 6 mm aluminium mounting plate)
Ambient temperature	-40 °F ... 149 °F (without mounting plate) -40 °F ... 158 °F (with 3 mm sheet steel mounting plate) -40 °F ... 167 °F (w. 6 mm alum. mounting plate)
Storage temperature	-40 °C ... 80 °C
Storage temperature	-40 °F ... 176 °F
Max. operating altitude	2000 m
Max. relative humidity	95 %
max. relative humidity note	without condensation

Mechanical Data

Degree of protection (IP) (IEC 60529)	IP30
Module enclosure	Polyamide 6GF Seawater-resistant aluminium
Fire resistance (UL 94)	V2
Pollutant class	Corresponds to G3
Width	32 mm
Width, inches	1.26 in
Depth	123 mm
Depth in inches	4.843 in
Length	152 mm
Length in inches	5.98 in
Weight	1 kg
Weight	2.2 lb

Mounting / Installation

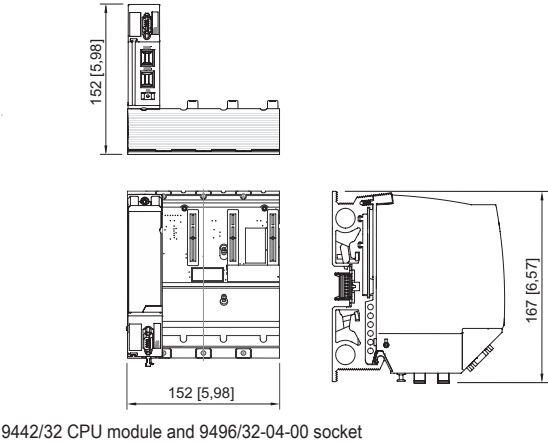
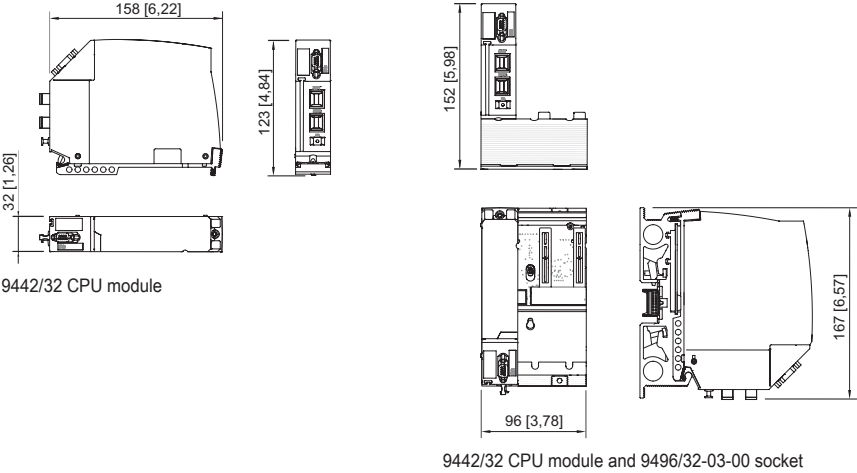
Mounting orientation	Horizontal Vertical
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Mounting / Installation

Module fuse	Torx T20 screws
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Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations



Accessories

Ethernet media converter		Art. No.
	Multi-mode media converter for installation in Zone 1 For Ethernet (PROFINET, EtherNet/IP, Modbus TCP) via fibre optic cables in Zone 1 (Class 1 IEC 60825-1 laser) Conversion from 100BASE-FX to 100BASE-TX-IS "Ex ia" 100BASE-FX: 1 port multi-mode, LC, 100 Mbit/s, up to 3 km 100BASE-TX-IS: 1 port, RJ45, 100 Mbit/s, up to 100 m	294420
	Single-mode media converter for installation in Zone 1 For Ethernet (PROFINET, EtherNet/IP, Modbus TCP) via fibre optic cables in Zone 1 (Class 1 IEC 60825-1 laser) Conversion from 100BASE-FX to 100BASE-TX-IS "Ex ia" 100BASE-FX: 1 port single-mode, LC, 100 Mbit/s, up to 30 km 100BASE-TX-IS: 1 port, RJ45, 100 Mbit/s, up to 100 m	294451

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Series 9496/32 – socket for CPU & power modules

Art. No.

	Zone 1 3 slots for mounting 1 x CPU and 2 x power module or 2 x CPU and 1 x power module Dimensions approx. L = 167 mm, W = 96 mm, H = 50.6 mm	290095
	Zone 1 4 slots for mounting 2 x CPU and 2 x power module Dimensions approx. L = 167 mm, W = 152 mm, H = 50.6 mm	290162

Fieldbus isolating repeater Series 9185/11

Art. No.

	Equipment for installation in safe areas or Zone 2/Div. 2 For fieldbuses with RS485-IS interface – Zone 1/Class I, II, III Division 1 and Class I, II, III Zone 1 Suitable for PROFIBUS DP, Modbus, R. STAHL ServiceBus RS 232, RS 422, RS 485 interface with the automation system Transmission rate automatically set with PROFIBUS DP Adjustable transmission rate (1.2 kbit/s to 1.5 Mbit/s) 24 V AC/DC auxiliary power For further information, see the Series 9185/11 data sheet	227598
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Sub-D plug, RS-485 IS, angled

Art. No.

	9-pin for connecting fieldbus or ServiceBus to CPU & power module Series 9440/22, 9185 fieldbus isolating repeater and 9786/12-11 media converter. The end-of-line resistor is installed and switchable. For RS 485 IS (according to Profibus standard). Ambient temperature: -40 °C to +70 °C	162693
	9-pin for connecting 9185 fieldbus isolating repeater and 9786/12-11 media converter. The end-of-line resistor is installed. For RS-485 IS (according to Profibus standard). Ambient temperature: -25 °C to +70 °C	201805

IS1 DTM devices Series 9499/DTM

Art. No.

	- Parameterisation and configuration of the IS1+ system - Communication with HART-capable field devices - Supports all common FDT frame applications (e.g. FieldCare, PactWare™) - Condition monitoring - Scan function for automatic topology generation - Download from r-stahl.com	
	9499/DTM-IS1-02 Com/Device/HART 30 Free-of-charge software licence for up to 30 HART devices	251237
	9499/DTM-IS1-04 Com/Device/HART 300 Software licence for up to 300 HART devices	251239
	9499/DTM-IS1-06 Com/Device/HART unlted. Software licence for an unlimited number of HART devices	251240

IS1 PCS7 APL field device library

Art. No.

	Simple integration of IS1+ systems in SIEMENS PCS7 (V9 SP2 to V9.1 SP2): - PROFIBUS DP with CPM 9440 from GSD 3.12; CPU 9442 from GSD 5.14 - PROFINET with CPU 9441 from GSDML-V2.3-Stahl-RIO-20140206; CPU 9442 from GSDML-V2.34-Stahl-RIO9442-20200427 Further information and ordering only available from Siemens: www.siemens.com/mvdi	
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STAHL

AOI tool

Art. No.



Simple integration of IS1+ systems in Rockwell ControlLogix and CompactLogix via EtherNet/IP and AOI (add-on instructions).
Note: The 9499/DTM-IS1 DTM is also required.
This can be downloaded from r-stahl.com

RS485 media converter

Art. No.



Media converter for installation in Zone 1.
For fieldbuses (PROFIBUS DP, Modbus RTU) using optical intrinsically safe "Ex op is" fibre optic in Zone 1.
Compatible with Series 9786 devices.
Point-to-point, linear structure or optical ring.
With diagnostics function including error signalling.
Simple parameterisation using a rotary switch.
Data rates from 9.6 kbit/s to 1.5 Mbit/s possible.
For further information, see the data sheet for the Series 9786 media converter.

308562



Media converter for installation in Zone 2.
For fieldbuses (PROFIBUS DP, Modbus RTU) using optical intrinsically safe "Ex op is" fibre optic in Zone 1.
Compatible with Series 9786 devices.
Point-to-point, linear structure or optical ring.
With diagnostics function including error signalling.
Simple parameterisation using a rotary switch.
Data rates from 9.6 kbit/s to 1.5 Mbit/s possible.
For further information, see the data sheet for the Series 9786 media converter.

308563

USB RS485 converter

Art. No.



USB/RS485-IS converter for installation in Zone 2
Interference-resistant, bidirectional conversion of a USB interface to an intrinsically safe RS485 interface, with power supply via the USB port

For further information, see the Series 9787 data sheet – MY R. STAHL 9787A

295356

USB-IS/RS485-IS converter for installation in Zone 1
Interference-resistant, bidirectional conversion of an intrinsically safe USB interface to an intrinsically safe RS485 interface, with power supply via the USB port

For further information, see the Series 9787 data sheet – MY R. STAHL 9787A

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