

# Remote I/O

## Remote I/O IS1+ CPU module

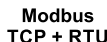
for Zone 1

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
RS485 interface connection	Sub-D plug, 9-pole
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
Min. address range RS485	1
Max. address range RS485	99

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### 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	480000 kbit/s
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

Auxiliary power/CPU AC	1500 V
CPU/CPU (redundancy) AC	1500 V

### Device Specific Data

Software	IS1 device DTM IS Wizard Web server
LED module requires maintenance	"M/S" LED, blue
LED module requires maintenance designation	M/S
LED module requires maintenance colour	blue
LED operating conditions	"PWR" LED, green
Operating status LED designation	PWR
Operating conditions LED colour	green
Retrievable parameters	Hardware revision Manufacturer Serial number Software revision Type
LED data traffic automatic system designation	AS EXCH

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### Device Specific Data

LED data traffic automatic system colour	green
LED configuration designation	CFG ERR
LED configuration colour	red
LED data traffic RS485 designation	RXTX X1 RS-485
LED data traffic RS485 colour	green
LED port connection RJ45 port 1 designation	LINK X2 LAN P1
LED port connection RJ45 port 1 colour	yellow
LED data traffic RJ45 port 1 designation	RXTX X2 LAN P1
LED data traffic RJ45 port 1 colour	green
LED port connection RJ45 port 2 designation	LINK X2 LAN P2
LED port connection RJ45 port 2 colour	yellow
LED data traffic RJ45 port 2 designation	RXTX X2 LAN P2
LED data traffic RJ45 port 2 colour	green
LED USB data traffic designation	RXTX X3 USB
LED USB data traffic colour	green

### Diagnostics

LED group error	"ERR" LED, red
Group error LED designation	ERR
Group error LED colour	red
LED status designation	STATUS
LED status colour	yellow

### Ambient Conditions

Ambient temperature	-40°C ... +65°C -40°C ... +70°C -40°C ... +75°C
Storage temperature	-40°C ... +80°C
Max. operating altitude	< 2000 m
Max. operating altitude	2000 m
Max. relative humidity	95% (without condensation)
Max. relative humidity	95 %

### 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
Width	32 mm
Depth	123 mm
Length in inches	5.98 in

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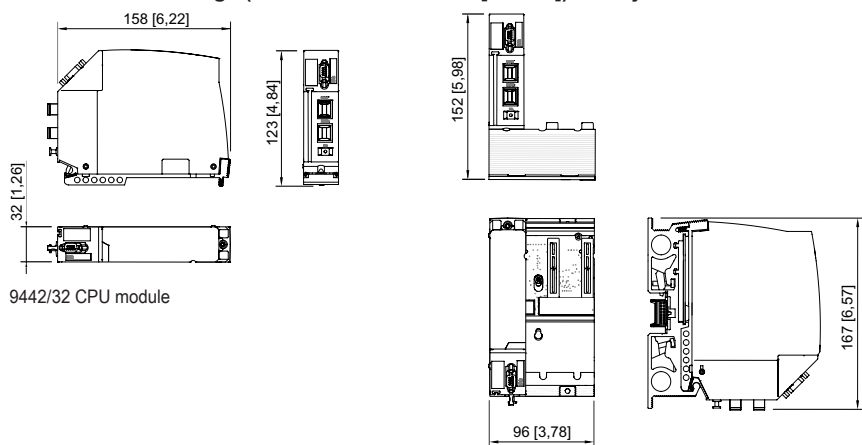
### Mechanical Data

Weight	1 kg
Weight	2.2 lb

### Mounting / Installation

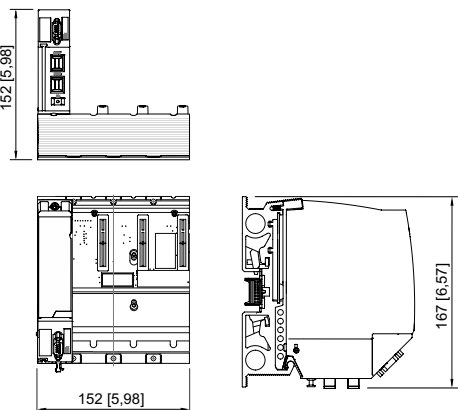
Mounting orientation	Horizontal Vertical
Module fuse	Torx T20 screws

### Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations



9442/32 CPU module

9442/32 CPU module and 9496/32-03-00 socket



9442/32 CPU module and 9496/32-04-00 socket

### Accessories

Ethernet media converter

Art. No.

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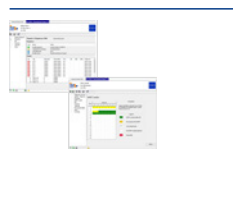
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	<p>Multi-mode media converter for installation in Zone 1 For Ethernet (PROFINET, EtherNet/IP, Modbus TCP) via fibre optic cables in Zone 1 (Class 1 IEC 60825-1 laser) Conversion from 100BASE-FX to 100BASE-TX-IS "Ex ia" 100BASE-FX: 1 port multi-mode, LC, 100 Mbit/s, up to 3 km 100BASE-TX-IS: 1 port, RJ45, 100 Mbit/s, up to 100 m</p>	294420
	<p>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</p>	294451
<b>Series 9496/32 – socket for CPU &amp; power modules</b>		<b>Art. No.</b>
	<p>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</p>	290095
	<p>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</p>	290162
<b>Fieldbus isolating repeater Series 9185/11</b>		<b>Art. No.</b>
	<p>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</p>	227598
<b>Sub-D plug, RS-485 IS, angled</b>		<b>Art. No.</b>
	<p>9-pin for connecting fieldbus or ServiceBus to CPU &amp; 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</p>	162693
	<p>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</p>	201805

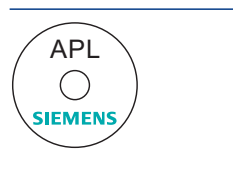
#### IS1 DTM devices Series 9499/DTM

Art. No.

	<ul style="list-style-type: none"> <li>- Parameterisation and configuration of the IS1+ system</li> <li>- Communication with HART-capable field devices</li> <li>- Supports all common FDT frame applications (e.g. FieldCare, PactWare™)</li> <li>- Condition monitoring</li> <li>- Scan function for automatic topology generation</li> <li>- Download from r-stahl.com</li> </ul>	
	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

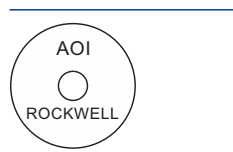
#### IS1 PCS7 APL field device library

Art. No.

	<p>Simple integration of IS1+ systems in SIEMENS PCS7 (V9 SP2 to V9.1 SP2):</p> <ul style="list-style-type: none"> <li>- PROFIBUS DP with CPM 9440 from GSD 3.12; CPU 9442 from GSD 5.14</li> <li>- PROFINET with CPU 9441 from GSDML-V2.3-Stahl-RIO-20140206; CPU 9442 from GSDML-V2.34-Stahl-RIO9442-20200427</li> </ul> <p>Further information and ordering only available from Siemens: <a href="http://www.siemens.com/mvdi">www.siemens.com/mvdi</a></p>	
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#### AOI tool

Art. No.

	<p>Simple integration of IS1+ systems in Rockwell ControlLogix and CompactLogix via EtherNet/IP and AOI (add-on instructions).</p> <p>Note: The 9499/DTM-IS1 DTM is also required. This can be downloaded from r-stahl.com</p>	
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#### RS485 media converter

Art. No.

	<p>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.</p>	308562
	<p>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.</p>	308563

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### 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	285849

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