

# Remote I/O

## Remote I/O IS1 Ethernet CPU module for Zone 1

9441/12-00-00 Art. No. 211045



- Suitable for "op is" 100 Mbit/s Ethernet with PROFINET, Modbus TCP or Ethernet/IP™
- Redundant activation with Modbus TCP possible
- CPU can be hot swapped in Zone 1 and Cl. I, Div. 1

MY R. STAHL 9441A



Modbus TCP

EtherNet/IP



The 9441/12 series CPU for Zone 1, Cl. I, Div. 1 is used to communicate with the automation system via PROFINET, Modbus TCP or Ethernet/IP™. The connection is established by means of an optically inherently safe "op is" fibre optic, which can be connected and disconnected in hazardous areas.

IS1+ and connected HART devices are integrated into asset management systems using a DTM.

### Technical Data

#### Explosion Protection

Application range (zones)	1, 2
Ex interface zone	0, 1, 2, 20, 21, 22
IECEX gas certificate	IECEX KEM 08.0035X
IECEX gas explosion protection	Ex d [ia Ga] [op is T6 Ga] IIC T4 Gb
IECEX dust certificate	IECEX KEM 08.0035X
IECEX dust explosion protection	[Ex ia Da] [Ex op is Da] IIIC
ATEX gas certificate	KEMA 08 ATEX 0155 X
ATEX gas explosion protection	⊕ II 2 (1) G Ex d [ia Ga] [op is T6 Ga] IIC T4 Gb
ATEX dust certificate	KEMA 08 ATEX 0155 X
ATEX dust explosion protection	⊕ II (1) D [Ex ia Da] [Ex op is Da] IIIC
FMus certificate	FM17US0332X
cFM certificate	FM16CA0134X
Marking cFMus	XP, Class I, Div. 1, Groups A,B,C,D; Class I, Zone 1, Group IIC AIS Class I,II,III, Div. 1, Groups A,B,C,D,E,F,G; Class I, Zone 0, [AEx ia]/[Ex ia] IIC T4 at Ta = 65 °C See Doc. 9441 6 031 001 1
Certificates	ATEX (DEK), Canada (FM), IECEX (DEK), International (FF), USA (FM)
Ship approval	ABS
Installation	Zone 1 / Cl. I, Div. 1
Further information	see respective certificate and operating instructions

#### Safety Data

Safety-related max. voltage	253 V AC
Max. FO radiant power	≤ 15 mW
Connection to fibre optic	"Ex op is" as per IEC 60079-28

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### Electrical Data

Protocols	EtherNet/IP Modbus TCP PROFINET
Interface Ethernet	Fibre optic, 100BASE-FX, Ex op is (IEC 600079-28)
Transmission distance	2000 m
Transmission speed	max. 100 Mbit/s
Ethernet Connection	Multi-mode 62.5/125 µm (OM1) and 50/125 µm (OM2), LC plug

### Auxiliary Power

Auxiliary power	Via base 9492/12-11-...
Nominal voltage $V_{nom}$	24 V DC
Auxiliary power voltage range	20 ... 35 V DC
Polarity reversal protection	Yes
Undervoltage monitoring	Yes
Current consumption (without I/O modules)	0.36 A at 24 V DC
Current consumption (8 I/O modules)	Approx. 2.6 A at 24 V DC
Current consumption (16 I/O modules)	Approx. 4.9 A at 24 V DC
Power dissipation (without I/O modules)	8.6 W
Power dissipation (with 8 I/O modules)	14 W

### Galvanic Isolation

Auxiliary power/system components	1500 V AC
ServiceBus/system components	500 V AC

### Device Specific Data

Software	IS1 device DTM IS Wizard
Ethernet status LED	"LINK" LED, green
LED operating conditions	"RUN" LED, green
LCD display	2 x 16 characters
LCD Display	2 x 16 characters (on the 9492/12-11-.. socket)
Settings on the LCD	IP address Subnet screen Gateway address
Indications	IP address, alarms/errors, information (type, version, etc.) for the field station, modules and signals, and values for inputs and outputs
Diagnostics CPU & Power Module	Hardware error Configuration error
Diagnostics I/O Modules	Primary internal bus error Redundant internal bus error No response Configuration different from module Hardware error

### Diagnostics

LED group error	"ERR" LED, red
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### Ambient Conditions

Ambient temperature °C	-20°C ... +65°C
Ambient temperature °F	-4°F ... +149°F
Storage temperature °C	-40°C ... +70°C

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### Ambient Conditions

Storage temperature °F	-40°F ... +158°F
Max. operating altitude	< 2000 m
Max. relative humidity	95% (without condensation)
Shock (semi-sinusoidal)	(IEC EN 60068-2-27) 15 g (3 shocks per axis and direction)
Vibration (sinusoidal)	(IEC EN 60068-2-6) Frequency range 2 to 13.2 Hz Amplitude 1 mm (peak value) Frequency range 13.2 to 100 Hz Acceleration amplitude 0.7 g
Electromagnetic compatibility	Tested to the following standards and regulations: EN 61326- 1 (1998) IEC 1000-4-1 to 1000-4-1-6, NAMUR NE 21

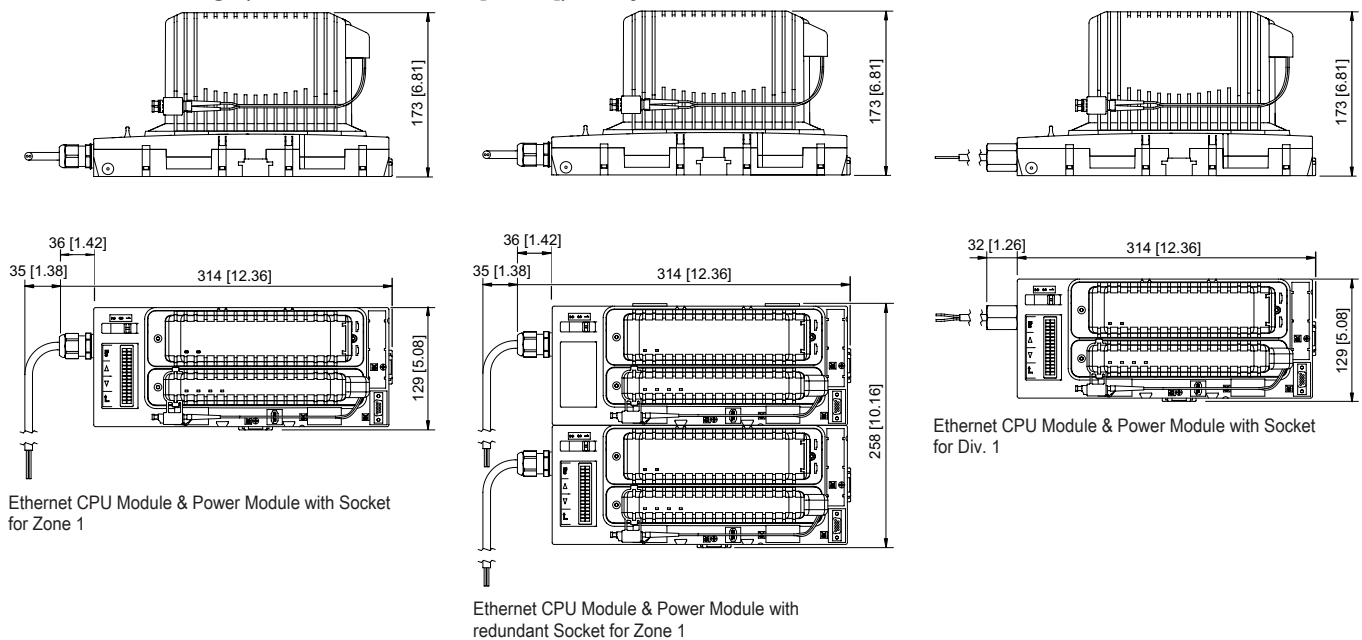
### Mechanical Data

Degree of protection (IP) (IEC 60529)	IP30
Module enclosure	Polyamide 6GF
Fire resistance (UL 94)	V2
Pollutant class	Corresponds to G3
Width	38 mm
Width, inches	1.5 in
Depth	158 mm
Length	226 mm
Length in inches	8.9 in
Mounting depth in inches	6.22 in
Weight	1.3 kg

### Mounting / Installation

Mounting type	on base 9492/12-11-...
Mounting orientation	Vertical

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

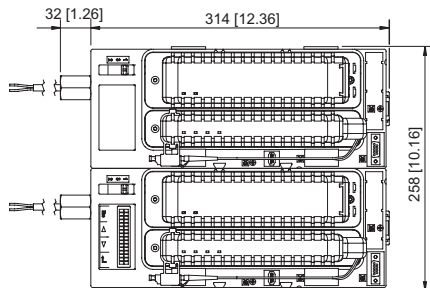
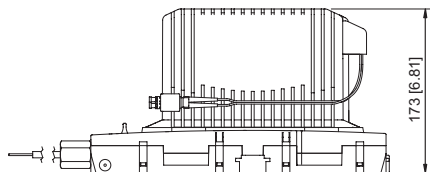


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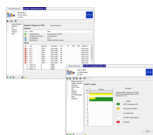
Ethernet CPU Module & Power Module with redundant Socket for Div. 1

### Accessories


#### Series 9492/13 - Socket for CPU and Power Module

		Art. No.
	Division 1 Fieldbus: Modbus TCP, simplex 24 V DC	202098
	Division 1 Fieldbus: Modbus TCP, redundant 24 V DC	202099
	Division 1 Fieldbus: PROFINET, simplex 24 V DC	208875
	Division 1 Fieldbus: EtherNet/IP™, simplex 24 V DC	208876

#### 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>	

#### Device DTM IS1 Series 9499

		Art. No.
	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








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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	
IS1 PCS7 APL field device library		Art. No.
	Easy integration of IS1+ systems into SIEMENS PCS7 (V9 SP2 ... V9.1 SP2): - PROFIBUS DP with CPM 9440 starting with GSD 3.12; CPU 9442 starting with GSD 5.14 - PROFINET with CPU 9441 starting with GSDML-V2.3-Stahl-RIO-20140206; CPU 9442 starting with GSDML-V2.34-Stahl-RIO9442-20200427 Further information and order processing exclusively through company Siemens: www.siemens.com/mvdi	
Series 9492/12 – socket for CPU & power module		Art. No.
	Zone 1 Fieldbus: Modbus TCP, simplex 24 V DC	166176
	Zone 1 Fieldbus: EtherNet/IP™, simplex 24 V DC	166322
	Zone 1 Fieldbus: PROFINET, simplex 24 V DC	166321
	Zone 1 Fieldbus: Modbus TCP, redundant 24 V DC	166324
FX op is/TX SC media converter for Zone 2		Art. No.
	Media converter from 10/100 BASE-TX (1 x RJ45 port) to 100 BASE-FX "Ex op is" (1 x FO port SC); multi-mode (up to 4 km range); MY R. STAHL: 9721A	220381
Unmanaged switch FX op is/TX SC for Zone 2		Art. No.
	Unmanaged switch FX op is auf TX; SC plug connector FO cable 4 multi-mode (MM), 2 RJ45, installation in Zone 2	243427
FO patch cable		Art. No.
	Patch cable for connection of IS1+ Ethernet CPU 9441 with media converter 9721; plug LC / SC; length 3.8 ft / 3 m	220911

We reserve the right to make alterations to the technical data, dimensions, weights, designs and products available without notice. The illustrations cannot be considered binding.