- Suitable for Ex i Profibus DP V0/V1 HART, Modbus RTU
- Supports system redundancy and optical rings
- CPM in Zone 1 can be replaced without having to disconnect the power supply (i.e. hot-swapped)
- Integration in plant asset management systems via ServiceBus and FDT/DTM
- Integrated Ex i power supply for up to 8 I/O modules

**WebCode 9440A**

〈Ex〉  **PROFIBUS**  **Modbus RTU**  **HART** COMMUNICATION PROTOCOL

Series 9440/22 CPU & power modules (CPM) for Zone 1 are used to supply up to 8 IS1+ I/O modules and field circuits with intrinsically safe power. Intrinsically safe RS485-IS with PROFIBUS DP or Modbus RTU is used for communicating with the automation system. The CPMs support system redundancy and optical rings and can be replaced during operation (i.e. hot-swapped) in Zone 1/Div. 1. A DTM and process bus or Service-Bus are used for asset management integration.

| IECEx / ATEX | | | | | | |
|---|---|---|---|---|---|---|
| **Zone** | 0 | 1 | 2 | 20 | 21 | 22 |
| **Ex interface** | • | • | • | | • | • |
| **Installation in** | | • | • | | | |

| NEC® 500 CE Code Appendix J | | | | | | |
|---|---|---|---|---|---|---|
| | Class I | | Class II | | Class III | |
| **Division** | 1 | 2 | 1 | 2 | 1 | 2 |
| **Ex interface** | • | • | • | • | • | • |
| **Installation in** | • | • | | | | |

| CE Code Section 18 NEC® 505 / NEC® 506 | | | | | | |
|---|---|---|---|---|---|---|
| | Class I | | | | | NEC® 506 |
| **Zone** | 0 | 1 | 2 | 20 | 21 | 22 |
| **Ex interface** | | • | • | | | |
| **Installation in** | | • | • | | | |

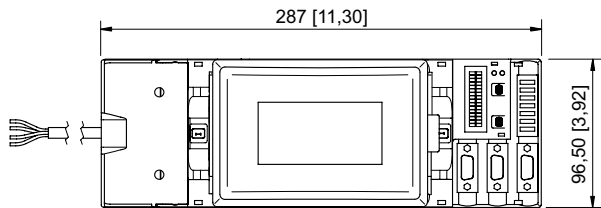| Selection Table | | | | | |
|---|---|---|---|---|---|
| Installation | | Zone 1/Division 1 | | | |
| Nominal voltage | Protocols | Redundancy | Product Type | Art. No. | Weight |
| 24 V DC | Modbus RTU | Full redundancy | 9440/22-01-11-C1202 | 162221 | 2.96 kg |
| | Profibus DP V0 Profibus DP V1 Profibus DP V1 HART | Full redundancy | 9440/22-01-11-C1243 | 162218 | 2.96 kg |
| | | According to PNO Full redundancy | 9440/22-01-11-C1455 | 203585 | 2.96 kg |
| 120 V / 230 V AC | Modbus RTU | Full redundancy | 9440/22-01-21-C1202 | 162214 | 2.96 kg |
| | Profibus DP V0 Profibus DP V1 Profibus DP V1 HART | Full redundancy | 9440/22-01-21-C1243 | 162211 | 2.96 kg |
| | | According to PNO Full redundancy | 9440/22-01-21-C1455 | 203586 | 2.96 kg |

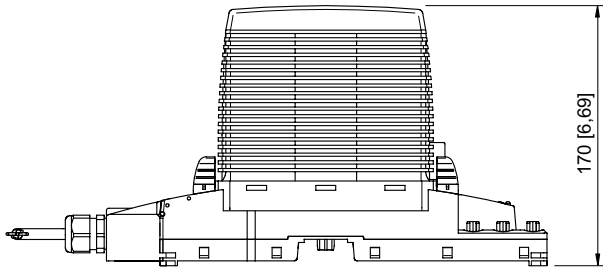Please order the 9490 socket separately (see accessories).

| Technical Data | | |
|---|---|---|
| **Variant** | **24 V DC** | **120 V / 230 V AC** |
| Explosion Protection | | |
| IECEx gas explosion protection | Ex d [ia] [ib] IIC T4 Gb | Ex d [ia] [ib] IIC T4 Gb |
| ATEX gas explosion protection | 〈Ex〉 II 2 G Ex d [ia] [ib] IIC T4 Gb | 〈Ex〉 II 2 G Ex d [ia] [ib] IIC T4 Gb |
| Certificates | ATEX (DEK), Brazil (ULB), Canada (FM), China (NEPSI), IECEx (DEK), Korea (KTL), USA (FM) | ATEX (DEK), Brazil (ULB), Canada (FM), China (NEPSI), IECEx (DEK), Korea (KTL), USA (FM) |
| Ship approval | ABS, BVIS, EU RO MR (DNV), KR, LR | ABS, BVIS, EU RO MR (DNV), KR, LR |

**A4**

## Technical Data

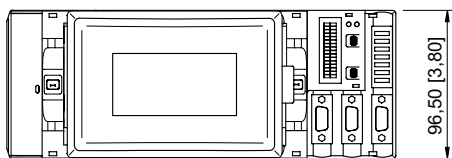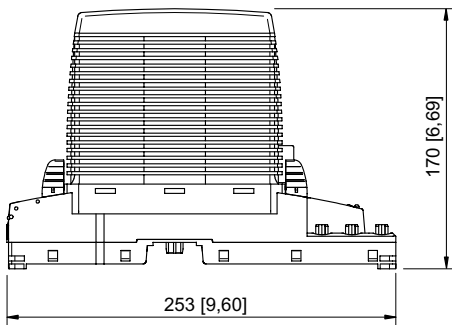| Variant | 24 V DC | 120 V / 230 V AC |
|---|---|---|
| **Electrical Data** | | |
| Copper RS485 transmission length/rate | 1200 m at 9.6 to 93.75 kbps<br>1000 m at 187.5 kbps<br>400 m at 500 kbps<br>200 m at 1.5 Mbps | 1200 m at 9.6 to 93.75 kbps<br>1000 m at 187.5 kbps<br>400 m at 500 kbps<br>200 m at 1.5 Mbps |
| Fieldbus RS485 connection | Sub-D socket, 9-pole | Sub-D socket, 9-pole |
| ServiceBus RS485 connection | Sub-D socket, 9-pole | Sub-D socket, 9-pole |
| **Auxiliary Power** | | |
| Auxiliary power voltage range | 20 to 35 V DC | 90 to 253 V AC |
| Current consumption (without I/O modules) | 0.21 A at 24 V DC | Approx. 25 mA at 230 V AC<br>Approx. 48 mA at 120 V AC |
| Current consumption (8 I/O modules) | Approx. 2.5 A at 24 V DC | Approx. 0.4 A at 230 V AC<br>Approx. 0.8 A at 120 V AC |
| Power dissipation (without I/O modules) | 5 W | 8.4 W |
| Power dissipation (per I/O module) | 1.4 W | 1 W |
| **Ambient Conditions** | | |
| Ambient temperature | -20°C ... +65°C | -20°C ... +65°C |
| **Mechanical Data** | | |
| Degree of protection (IP) (IEC 60529) | IP20 connections<br>IP30 modules | IP20 connections<br>IP30 modules |
| Width | 96.5 mm | 96.5 mm |
| Depth | 170 mm | 170 mm |

## Accessories

| Figure | Description | Art. No. | Weight |
|---|---|---|---|
| **RS485 media converter** | | | |
|  | Media converter for installation in Zone 1.<br>For fieldbuses (PROFIBUS DP, Modbus RTU) using optical intrinsically safe "Ex op is" fibre optic in Zone 1.<br>Compatible with Series 9786 devices.<br>Point-to-point, linear structure or optical ring.<br>With diagnostics function including error signalling.<br>Simple parameterisation using a rotary switch.<br>Data rates from 9.6 kbps to 1.5 Mbps possible.<br>For further information, see the data sheet for the Series 9786 media converter. | 308562 | 825 g |
|  | Media converter for installation in Zone 2.<br>For fieldbuses (PROFIBUS DP, Modbus RTU) using optical intrinsically safe "Ex op is" fibre optic in Zone 1.<br>Compatible with Series 9786 devices.<br>Point-to-point, linear structure or optical ring.<br>With diagnostics function including error signalling.<br>Simple parameterisation using a rotary switch.<br>Data rates from 9.6 kbps to 1.5 Mbps possible.<br>For further information, see the data sheet for the Series 9786 media converter. | 308563 | 814 g |
| **Series 9490/11  socket for CPU & power module** | | | |
|  | Zone 1, connection by means of Ex e terminals,<br>24 V DC, 120/230 V AC | 162707 | 482 g |
| **Series 9490/13  socket for CPU & power module** | | | |
|  | Zone 1, connection by means of an unconnected cable end,<br>24 V DC, 120/230 V AC | 162711 | 900 g |

| Figure | Description | Art. No. | Weight |
|---|---|---|---|
| **Series 9490/12  socket for CPU & power module** | | | |
| | Division 1, connection by means of a conduit, 24 V DC, 120/230 V AC | 162715 | 900 g |
| **Sub-D plug, RS-485 IS, angled** | | | |
| | 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 | 100 g |
| **Fieldbus Isolating Repeater Series 9185/11** | | | |
| | 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 kbps to 1.5 Mbps) 24 V AC/DC auxiliary power For further information, see the Series 9185/11 data sheet | 227598 | 350 g |
| **IS1 DTM devices Series 9499/DTM** | | | |
| | - Parameterisation and configuration of the IS1+ system<br>- Communication with HART-capable field devices<br>- Supports all common FDT frame applications (e.g. FieldCare, PactWare™)<br>- Condition monitoring<br>- Scan function for automatic topology generation<br>- 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 unltd. Software licence for an unlimited number of HART devices | 251240 | - |
| **IS1 PCS7 APL field device library** | | | |
| | 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 | – | - |
| **Vibration bracket set** | | | |
| | When installed in environments with extreme vibration (> 0.7 g and max. 4 g), the 9490 vibration brackets may be used as an additional measure and provide mechanical stability for the individual modules. For mounting: 9440/22 CPM for Zone 1, redundant Number of brackets in a set: 2 Screws (item no. 275516) must be ordered separately. | 271918 | - |
| | When installed in environments with extreme vibration (> 0.7 g and max. 4 g), the 9490 vibration brackets may be used as an additional measure and provide mechanical stability for the individual modules. For mounting: 9440/22 CPM for Zone 1, single Number of brackets in a set: 2 Screws (item no. 275516) must be ordered separately. | 271917 | - |
| **Set of screws** | | | |
| | Set of M5 x 14 screws (self-tapping) for 9490 vibration brackets Number of screws in a set: 25 | 275516 | - |

170 [6,69]

170 [6,70]

36 [1,42]

36 [1,42]

287 [11,30]

96,50 [3,80]

287 [11,30]

96,50 [3,92]

CPU & power module for Zone 1 with connection by means of an unconnected cable end
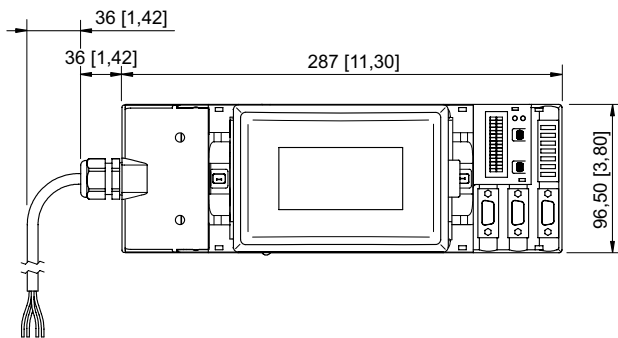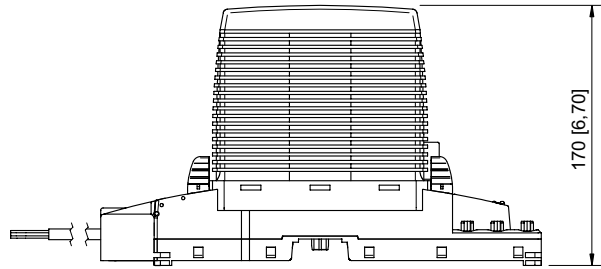
CPU & power module for Division 1 with connection by means of a conduit

170 [6,69]

253 [9,60]

96,50 [3,80]

CPU & power module for Zone 1 with connection by means of Ex e terminals

4