

9415/00-310-42 Art. No. 207903



- Transmission of the physical layer diagnostics of up to 8 FOUNDATION™ Fieldbus H1 segments via a selectable H1 network
- Diagnostics for voltage/current, jitter, noise, signal level, imbalance
- DTM and EDD with many different options for alarm configuration, access to maintenance information, detailed reporting

MY R. STAHL 9415A



The 9415 diagnostics communication module (DCM) transmits the physical layer diagnostics data that is measured continuously by the Series 9412 fieldbus power supply units for up to 8 FF H1 segments to hosts or asset management systems. EDD and DTM are available for integration. The data is logged according to NAMUR NE 123 and processed according to NAMUR NE 107 and FF-912.

9419 bus-Carriers can be used for installation.

### Technical Data

#### Explosion Protection

Application range (zones)	2
Ex interface zone	2
IECEX gas certificate	IECEX BVS 11.0054X
IECEX gas explosion protection	Ex nA [ic] IIC T4 Gc
ATEX gas certificate	BVS 11 ATEX E 104 X
ATEX gas explosion protection	⊕ II 3 G Ex nA [ic] IIC T4 Gc
FMus certificate	3026646
cFM certificate	3026646C
Marking cFMus	NI, Class I, Div. 2, Groups A,B,C,D; Class I, Zone 2, AEx/Ex nA [ic] IIC ANI Class I,II,III, Div. 2, Groups A,B,C,D,E,F,G; T4 at Ta = -70°C See Doc. 9415 6 031 001 1
Certificates	ATEX (BVS), Canada (FM), IECEX (BVS), International (FF), USA (FM)

#### Safety Data

Max. voltage U <sub>i</sub>	32 V
Internal capacitance	Negligible
Internal inductance	10 µH

#### Auxiliary Power

Auxiliary power	Via bus-Carrier series 9419
Nominal voltage	24 V DC
Auxiliary power voltage range	18 ... 32 V DC
Current consumption	40 mA at 24 V DC
Max. power dissipation	1 W

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### Galvanic Isolation

Fieldbus/supply	1500 V AC
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### Input

Connection to	ISbus fieldbus power supplies 9412 (via bus-Carrier 9419)
Physical layer diagnostics	Via fieldbus power supplies 9412
Physical Layer values segment	Jitter, signal level, noise, imbalance, voltage, current
Physical Layer values fieldbus	Jitter, signal level
Physical Layer values	As per NAMUR NE 123

### Output

Connection to	Host and asset management systems with H1 interface
Specification	FOUNDATION™ fieldbus H1 (IEC 61158-2)
Data transmission	Via segment 1 to 4 or 8 (depending on bus-Carrier), arbitrary Alternatively: Via own diagnostics segment
Voltage range segment	9 – 32 V
Current consumption segment	13 mA

### Device Specific Data

LED operating conditions	"PWR" LED, green
LED error indication	"ERR" LED, red Flashes, DCM maintenance required Lights up, DCM error
LED segment	"SEG 1" to "SEG 2" LED, red Flashes, segment maintenance required Lights up, segment error
FF stack	Softing
Device-specific data technology	EDD and DTM
Retrievable parameters	Serial number Type Version Revision for DCM Fieldbus power supply bus-Carrier
Parameter data	Resource block for DCM device data, fieldbus power supply and bus-Carrier
Cyclic data transmission	10 DI function blocks for status information/common alarms per segment
Acyclic data transmission	9 transducer blocks with extensive information: Physical layer values, HI alarm, HIHI alarm, LO alarm, LOLO alarm, DCM status, segment status, fieldbus devices status
Module status and alarms	FF H1 events as per FF-912 NAMUR NE 107 (field diagnostics alarm)
Firmware update	RS232 via PC

### Diagnostics

Diagnostics connection type	26-pole Connection to bus-Carrier 9419
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### Ambient Conditions

Ambient temperature	-20 °C ... +70 °C
Ambient temperature	-4 °F ... +158 °F
Storage temperature	-40 °C ... +80 °C
Storage temperature	-40 °F ... +176 °F
Max. operating altitude	< 2000 m
Max. relative humidity	95% (without condensation)

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### Ambient Conditions

Electromagnetic compatibility	Tested to the following standards and regulations: EN 61326 (IEC/EN 61000-4-1 to 61000-4-6 and 61000-4-11), NAMUR NE21
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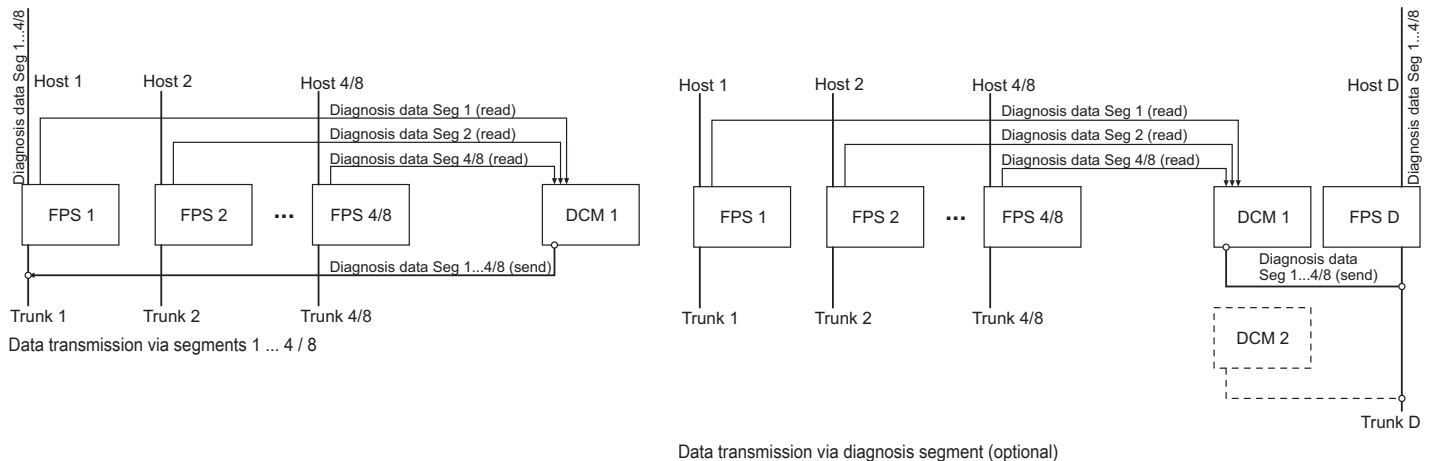
### Mechanical Data

Trunk connection type	Screw terminals
Connection terminals	3-pole (+, -, shield)
Connection earthing	At "S" terminal
Single-wire connection	Trunk 0.2 to 2.5 mm <sup>2</sup> rigid Trunk 0.2 to 2.5 mm <sup>2</sup> flexible
Flexible single-wire connection with sleeve	Trunk 0.2 to 2.5 mm <sup>2</sup>
Degree of protection (IP) (IEC 60529)	IP30 enclosure IP20 Ex e terminals
Module enclosure	PA 6.6
Fire resistance (UL 94)	V0
Pollutant class	Corresponds to G3
AWG clamping range	16 – 12
Connection cross-section AWG	16 ... 12
Width	35 mm
Width, inches	1.39 in
Height	113.5 mm
Length	103 mm
Length, inches	4.25 in
Mounting depth, inches	4.51 in
Weight	240 g
Weight	0.53 lb

### Mounting / Installation

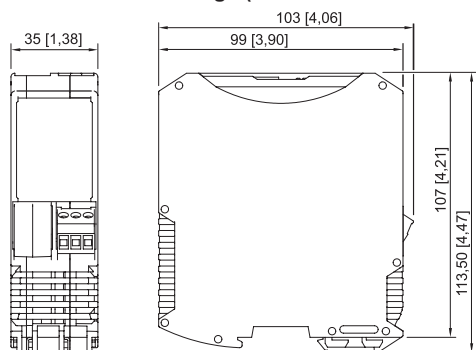
Mounting type	In Series 9419 bus-Carrier
Mounting orientation	Horizontal Vertical

### Technical Drawings – Subject to Alterations




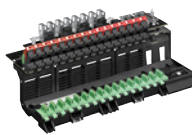





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### Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations



### Accessories

Cable for FOUNDATION Fieldbus, PROFIBUS PA		Art. No.
	Cable type: O2YS(St+Ce)Y-fl Colour (sheath): Orange Application area: Universal use FISCO, UL listed, sunlight-resistant, oil-resistant, flame retardant	169329
Fieldbus power supply		Art. No.
	Fieldbus power supply and diagnostics	200586
Yokogawa bus-Carrier		Art. No.
	Yokogawa bus-Carrier for eight segments, simplex	221454
	Yokogawa bus-Carrier for four segments, redundant	221455
	Yokogawa bus-Carrier for eight segments, redundant	221456
bus-Carrier		Art. No.
	bus-Carrier for four segments, redundant	208746
	bus-Carrier for eight segments, simplex	208745
	bus-Carrier for eight segments, redundant	208747
bus-Carrier for linking device		Art. No.
	bus-Carrier for linking device for four segments, redundant	250241
	bus-Carrier for linking device for four segments, simplex	250240
	bus-Carrier for linking device for eight segments, simplex	250242

## Network technology

ISbus fieldbus technology Diagnostics communication module



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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.