

Diagnosis communication module (DCM)

Series 9415



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14240E00

- > For FOUNDATION™ fieldbus H1
- > Transmission of diagnostic data from up to 8 FF H1 segments
- > Diagnosis of the physical layer values: voltage / current, jitter, noise, signal level, unbalance
- > Simple integration into asset management systems via FF H1 and EDD or DTM
- > Diagnostics handling acc. to NAMUR NE 107 and FF-912
- > LEDs for diagnostics and operation
- > Various bus-Carriers for 4 and 8 segments, simplex and redundant available



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The Diagnosis Communication Module (DCM) 9415 transmits fieldbus diagnostics data, measured by the Fieldbus Power Supply 9412, via FOUNDATION™ fieldbus H1 to a host and / or asset management system.

The Fieldbus Power Supplies are continuously measuring all the relevant physical layer values acc. to NAMUR NE 123. The DCM collects the values from up to 8 segments and transmits the diagnostics information via one of the installed FF H1 segments or alternatively via a dedicated diagnostic segment.

The integration into host and asset management tools is done via an EDD, offering sophisticated possibilities for setting alarm and pre-alarm levels, obtaining life maintenance data from the bus and creating detailed reports.



Zone	ATEX / IECEx					
	0	1	2	20	21	22
Ex interface			x			
Installation in			x			

WebCode 9415A

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Selection Table

Version	Description	Order number
Diagnosis communication module (DCM)	transmission of diagnostics data from up to 8 via FF H1	9415/00-310-42

Note installation in bus-Carriers with 8 (simplex / redundant) or 16 (redundant) slots

Explosion Protection

Global (IECEx)

Gas	IECEx BVS 11.0054X Ex nA [ic] IIC T4 Gc
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Europe (ATEX)

Gas	BVS 11 ATEX E 104 X Ⓜ II 3 G Ex nA [ic] IIC T4 Gc
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Certifications and certificates

Certificates	IECEx, ATEX, Canada (cFM), Kazakhstan (TR), Russia (TR), USA (FM), Belarus (TR)
Ship approval	DNV

Further parameters

Installation	in Zone 2, Div. 2 and in the safe area
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Safety data

Max. permissible voltage U_i	32 V
Internal capacitance C_i	negligible
Internal inductance L_i	10 μ H

Technical Data

Electrical data

Auxiliary power	
Connection	from the bus-Carriers Series 9419
Nominal voltage U_N	24 V DC
Voltage range	18 ... 32 V DC
Current consumption	40 mA at 24 V DC
Galvanic separation	
Fieldbus to Power Supply	1500 V AC (test voltage)

Indication

Operation indication	LED "PWR", green
Function Indication	LED "ERR", red (flashes = DCM maintenance required, ON = failure DCM)
Segment status	LED "ERR", red (flashes = segment maintenance required, ON = failure segment)

Diagnostics interface

For connection to	ISbus Fieldbus Power Supplies 9412 (via bus-Carrier 9419)
Physical layer measurement (acc. to NAMUR NE 123)	via Fieldbus Power Supplies 9412: Segment: voltage / current, jitter, signal level, noise, balance, current and voltage Fieldbus devices: jitter, signal level
Further Data	Serial number, type, version revision for DCM, Fieldbus Power Supplies and bus-Carrier.

Fieldbus interface

For connection to	Host and Asset Management Systems with H1 interface
Specification	FOUNDATION™ fieldbus H1 (IEC 61158-2)
Data transmission	Via segment 1 ... 4 / 8 (depends on bus-Carrier), selectable Alternative: via dedicated diagnosis segment
Voltage range	9 ... 32 V DC
Current consumption	13 mA

Functions

FF stack	Softing
Technology	EDD and DTM
Parameter data	Resource Block for device data DCM, Fieldbus Power Supply and bus-Carrier
Cyclic data transmission	10 DI function blocks for status information / common error per segment
Acyclic data transmission	9 Transducer blocks for detailed information: physical layer values, HI-alarm, HIHI-alarm, LO-alarm, LOLO-alarm, status DCM, status segment, status fieldbus devices
Alerts and status	FF H1 events acc. to FF-912 / NAMUR NE 107 (Field Diagnostics Alarms)
Firmware update	RS232 via PC

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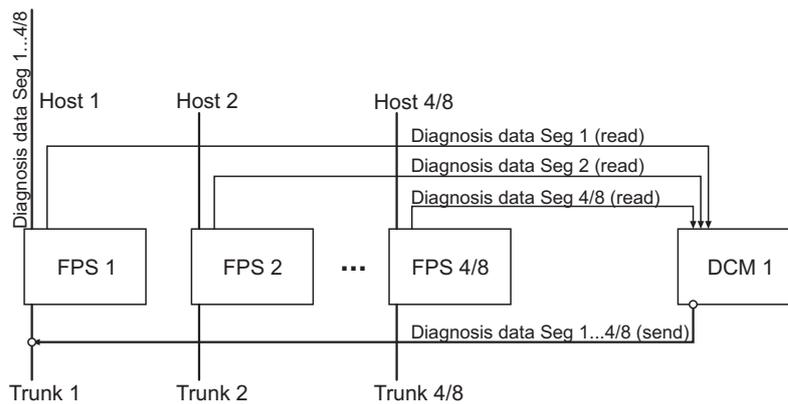
Technical Data

Ambient conditions

Ambient temperature	-20 ... +70 °C
Storage temperature	-40 ... +80 °C
Relative humidity (no condensation)	< 95 %
Electromagnetic compatibility	Tested to the following standards and regulations: EN 61326 (IEC/EN 61000-4-1...6 und 11), NAMUR NE 21

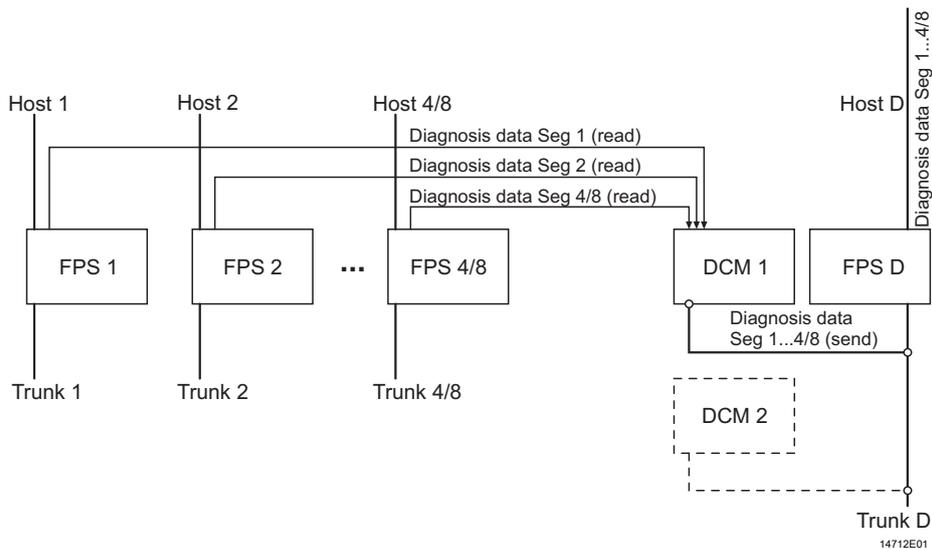
Electrical connection

Connection diagram



14711E01

Data transmission via segments 1 ... 4 / 8



14712E01

Data transmission via diagnosis segment (optional)

Mechanical data

Terminals		one wire	two wires
		Screw terminals	Screw terminals
	rigid	0.2 ... 2.5 mm ²	0.2 ... 1 mm ²
	flexible	0.2 ... 2.5 mm ²	0.2 ... 1,5 mm ²
	flexible, end covering sleeves	0.25 ... 2.5 mm ²	0.25 ... 1 mm ²
Mounting type	in bus-Carrier Series 9419		
Mounting orientation	vertical or horizontal		
Type of protection			
Enclosure	IP30		
Terminals	IP20		
Enclosure material	PA 6.6		
Fire resistance (UL-94)	V0		
Connecting cable	26 poles, for connection DCM with bus-Carrier		

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Accessories and Spare Parts

Designation	Figure	Description	Art. no.
Fieldbus Power Supply	 12783E00	fieldbus power supply and diagnostics	200586
	 12809E00	fieldbus power supply, diagnostics and adjustable warning level	200588
bus-Carrier	 14402E00	bus-Carrier for 4 segments, redundant	208746
	 14402E00	bus-Carrier for 8 segments, simplex	208745
	 14403E00	bus-Carrier for 8 segments, redundant	208747

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.