

# Mobile Advanced Diagnostic Module DM-AM-KIT



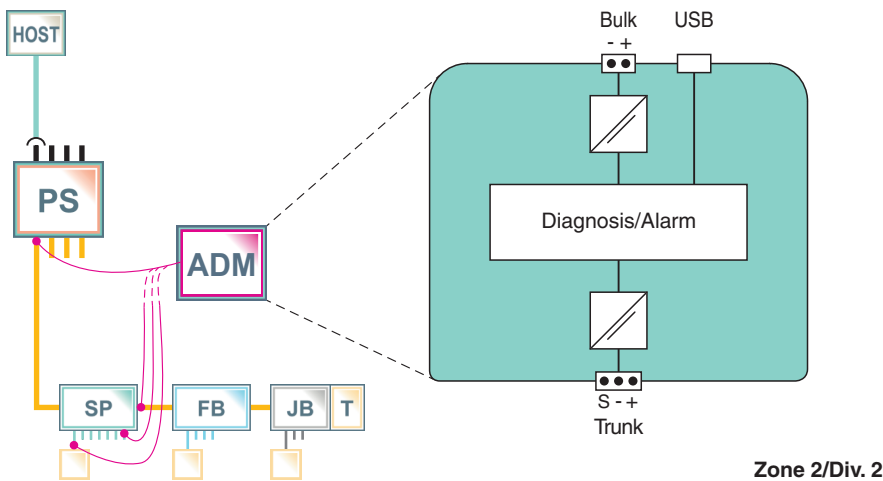
- Comprehensive diagnostics for the fieldbus physical layer
- Mobile kit for the fieldbus professional
- Precise measurements through passive circuits
- For commissioning and troubleshooting
- For FOUNDATION Fieldbus H1 and PROFIBUS PA
- Installation in Zone 2/Class I, Div. 2
- Connection to energy limited fieldbus segments Ex nL permissible
- USB interface for PC connection and power supply



## Function

Designed for maintenance personnel and traveling fieldbus expert, the FieldConnex® Mobile Advanced Diagnostic Module (ADM) is a comprehensive measurement tool for single segments. It can be set up at any point on the segment. Its passive input circuits leave the physical layer untouched for exact data. The ADM detects gradual or sudden changes and helps trace even intermittent malfunctions. The Mobile ADM primarily supports commissioning and troubleshooting. It is powered via USB 2.0 full-speed port and communicates with any laptop or desktop. In addition, a mounting bracket and connection for an external power supply enable the installation in a cabinet for continuous monitoring without USB connection. The Diagnostic Manager is the software for display and operation from the safety of the control room. The Professional Edition provides powerful functions and wizards simplifying and automating work procedures: an embedded expert system, a data historian, and a built-in oscilloscope (see datasheet DTM-FC.AD\*).

## Connection



## Technical Data

### General specifications

Design / Mounting Handheld/mobile

### Supply

Rated voltage	$U_r$	20 ... 30 V
Rated current	$I_r$	70 ... 30 mA
Power dissipation		0.7 W

### Fieldbus connection

Number of segments		1
Fieldbus type		FOUNDATION Fieldbus/PROFIBUS PA
Rated voltage	$U_N$	9 ... 32 V

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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## Technical Data

<b>Indicators/operating means</b>	
LED PWR	green: Power on
LED COM ERR	yellow: bus activity; red 2 Hz flashing: alarm; red: hardware error
<b>Interface</b>	
Interface type	USB: Square type B socket
<b>Directive conformity</b>	
Electromagnetic compatibility	
Directive 2004/108/EC	EN 61326-1:2006
<b>Standard conformity</b>	
Electromagnetic compatibility	NE 21:2006
Degree of protection	IEC 60529
Shock resistance	EN 60068-2-27
Vibration resistance	EN 60068-2-6
<b>Ambient conditions</b>	
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)
Relative humidity	< 95 % non-condensing
Shock resistance	15 g , 11 ms
Vibration resistance	1 g , 10 ... 150 Hz
<b>Mechanical specifications</b>	
Connection type	fieldbus: removable screw terminals with retaining screws external power: removable screw terminals with retaining screws USB: Square type B socket
Core cross section	2.5 mm <sup>2</sup>
Housing material	Aluminum
Housing width	35 mm
Housing height	114 mm
Housing depth	85 mm
Degree of protection	IP20
Mass	device 100 g , transport case, incl. accessories 1000 g
<b>Data for application in connection with hazardous areas</b>	
Certificate	TÜV 05 ATEX 2923 X
Marking	⊕ II 3G Ex nA [nL] IIC T4
Directive conformity	
Directive 94/9/EC	IEC 60079-15:2003
<b>General information</b>	
Supplementary information	Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .

Assembly



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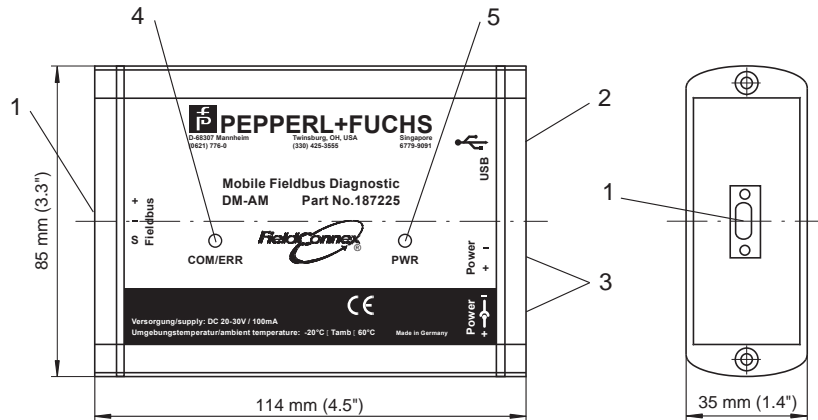
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**Additional Information**

**Dimensions**



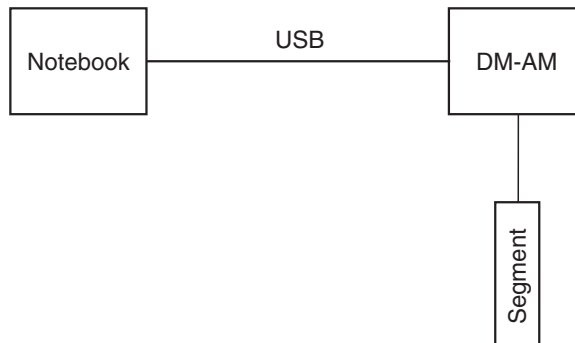
all dimensions without tolerance indication

**Description:**

- 1 Connection for fieldbus
- 2 USB connection
- 3 Connections for power supply

- 4 LED Communication/Error
- 5 LED Power

**Installation note**



Installation notes see manual.

**Scope of delivery**

- Transport case
- USB 2.0 cable
- Fieldbus cable with test clamps and DM-AM Fieldbus connector
- Mounting clamp for DIN rail
- Software package (inclusive Diagnostic Manager, Basic Edition)

**Accessories**

- Software User Interface: Diagnostic Manager, Professional Edition DTM-FC.ADM
- Wall Power supply DM-AM-WPS,  
AC Input: FRIVO exchangeable main plug (EURO, UK, USA / Japan, Australia, IEC)  
DC Output: Universal output plug system

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## Functional overview

<b>Fieldbus voltage</b>	The segment voltage is measured in a range of 0 V ... 35 V.
<b>Unbalance detection</b>	A capacitive or resistive short between any fieldbus wire and shield is measured and given in a range between -100 % ... +100 %. (-100% = short against - wire, +100% = short against +wire)
<b>Termination</b>	Over- and Undertermination are detected and reported.
<b>Communication level</b>	Node specific communication levels are measured in a range of 0 V ... 2.5 V.
<b>Jitter</b>	Jitter is a measurement for the timing of each bit. Each component connected (power supply, field instrument, cable, ...) to the segment influences jitter. It is an excellent indicator for segment health. The jitter is either segment or device specific measured in a range of 0 $\mu$ sec ... 8 $\mu$ sec.
<b>Signal polarity</b>	For each node the polarity of the signal modulation is given.
<b>Noise measurement</b>	The noise is measured in a frequency range between 100 Hz ... 140 kHz. The noise measurement is node address specific to detect device specific noise emission.
<b>Communication errors statistics</b>	Segment-specific error counters e.g. for CRC errors and framing errors are displayed.