

**TURCK**

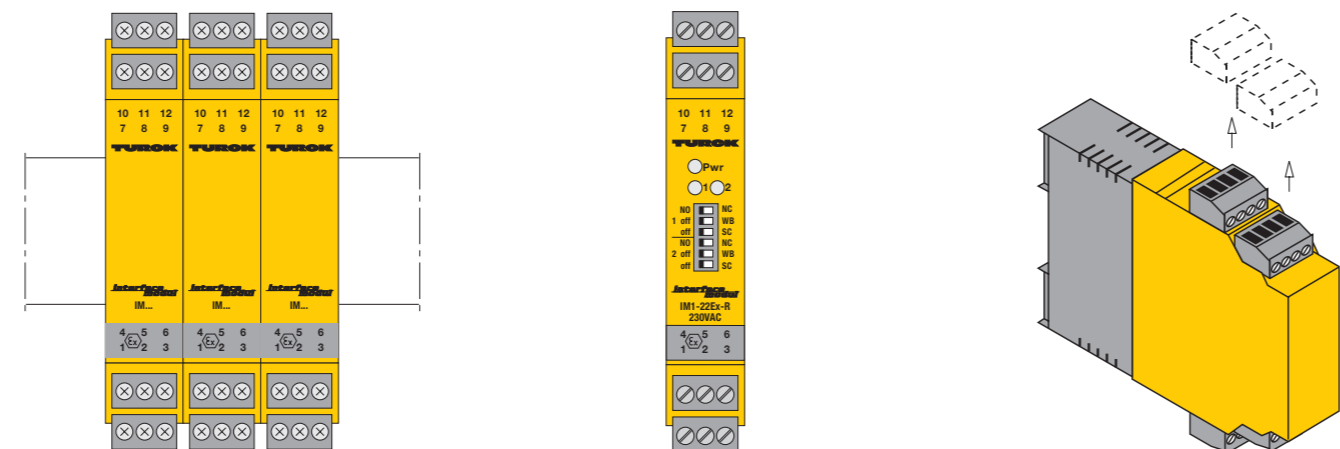
**PROCESS  
AUTOMATION**

**IM-MODULES**

**THE NEW  
INTERFACE  
SERIES**



**FUNCTIONS - SELECTION GUIDE**



**The housing concept**

Depending on the device's scope of functions, there are housings with a width of 18 or 27 mm, while they are 104 mm high. All modules may be mounted directly next to each other and are powered via the power bus.

**ATEX compliance\***

All interface devices of the new IM series feature intrinsically safe input and output circuits and are approved according to the new framework directive 94/9/EC, regarding equipment and protective systems intended for use in potentially explo-

**Universal power supply**

With a universal power supply ranging from 20 ... 250 VUC, or 20 ... 250 VAC/20 ... 125 VDC for the intrinsically safe versions, the new IM-modules may be connected to practically all industrial power networks. The universal power supply facilitates device selection, as well as device and spare part inventory management.

sive atmospheres. They can thus be used as associated equipment. The blue terminals are designated for connection of intrinsically safe signals.

**Removable terminal blocks**

Removable terminal blocks simplify installation and device replacements significantly. The terminals are coded, thus preventing interchange errors.



\*With effect from 1st Juli 2003, the framework directive 94/9/EC on "equipment and protective systems intended for use in potentially explosive atmospheres" will exclusively govern the field of explosion protection within the member states of the European Union. This directive has regard to the article 100a of the first European Treaty establishing the European Community. The article 100 a is referred to as ATEX 100a, which is derived from the French translation "Atmospheres Explosibles". Further information is available via the internet: <http://europa.eu.int/comm/enterprise/atex/index.htm>

Type	Circuitry	Function
IM12-17R IM12-18R IM12-22Ex-R IM1-22Ex-R IM1-44Ex-R IM1-44Ex-T IM1-451Ex-R IM1-451Ex-T		<b>Switching amplifiers (IM12-17-R/IM12-18-R)</b> The low-cost alternative to isolating amplifiers, in particular for safe non-explosive applications; inputs: contacts. <b>Isolating amplifiers</b> Processing of switching states of mechanical contacts and sensors according to to EN 60947-5-6 (NAMUR).
IM31-11Ex-i IM31-12Ex-i IM31-22Ex-i IM31-11-i IM31-12-i IM31-22-i		<b>Analogue data transmitters/ intrinsically safe input isolators</b> Galvanic isolation and/or conversion of analogue current and voltage signals. There are devices with intrinsically safe input and output circuits.
IM33-11Ex-i IM33-22Ex-Hi IM33-FSD-Ex/L		<b>Isolating transducers</b> Supply and transmission of current signals of 2-wire transmitters located in explosion hazardous areas. HART® devices enable bi-directional communication. This range incorporates devices with and without auxiliary power and active or passive outputs. Series -FSD includes smoke and fire detectors.
IM34-11Ex-i IM34-11Ex-Ci IM34-12Ex-Ri IM34-12Ex-Cri		<b>Pt100 measuring amplifiers</b> Linear conversion of temperature values into standard current signals. <b>Thermoelement measuring amplifiers</b> Linear conversion of temperature values, which are detected by a thermoelement, into standard current signals. All customary thermoelements or mV-signals may be connected. Types -Ci, -Cri = programmable via PC using software PACTware™.
IM35-11Ex-Hi IM35-22Ex-Hi		<b>Analogue data transmitters/ intrinsically safe output isolators</b> Galvanic isolation and transfer of analogue current signals into the explosion hazardous area. The family comprises a selection of devices with intrinsically safe output circuits. HART® devices enable bi-directional communication.
IM36-11Ex-i IM36-11Ex-U		<b>Potentiometer measuring amplifiers</b> Conversion of the variable resistance values of a potentiometer into standard current and voltage signals. The input circuit is intrinsically safe so that the potentiometer may be mounted in the explosion hazardous area.
IM43-13-R IM43-14-Ri IM43-13-SR IM43-14-Sri		<b>Limit value monitors</b> Monitoring of standard current and voltage signals for over- und errange of preset limit values. This series includes devices with three limit values and versions with current output. Types -SR, -Sri feature a manual teach function, whereas types -R and -Ri are adjustable via a coded rotary switch.
IM73-12-R		<b>Coupling devices</b> Galvanically isolated transmission of binary switching states. These devices function as a reliable interface between different potentials.
IM82-2414 IM82-2450		<b>Power supplies</b> Power supply with galvanic isolation used to power low power consumers, particularly suited for powering the switching and monitoring devices of TURCK's <i>interfacemodul</i> , <i>multimodul</i> and <i>multisafe®</i> series.
IM-PROG		<b>Programming adapter</b> For programming the IM-modules via a PC.
PB-XX03		<b>Power-bus for power distribution</b> Distribution of the power supply for several modules. "XX" in the type code stands for the number of modules, "03" for 3-pole terminals.

Bitte senden Sie mir Unterlagen:

- Sensortechnik**
- Induktive Sensoren
  - Induktive Sensoren für Schwenkantriebe
  - uprox®* induktive Sensoren
  - Kapazitive Sensoren
  - Magnetfeldsensoren
  - Opto-Sensoren
  - Geräte für den Personenschutz
  - Ultraschall-Sensoren
  - levelprox®*-Füllstandssensoren
  - Strömungswächter
  - Druckwächter
  - Temperaturwächter
  - Identifikationssystem
  - Linearweg-Sensoren
  - Drehweg-Sensoren
  - Steckverbinder
  - CD-ROM Sensortechnik

- Interfacetechnik**
- Interfacetechnik im Aufbauegehäuse für Hutschienen- (DIN50022), Platten- oder Bodenmontage
  - Interfacetechnik auf 19"-Karte für Baugruppenträger (DIN 41494)
  - Miniaturrelais, Industrierelais, Zeitwürfel, Socket
  - Zeit- und Überwachungsrelais
  - Ex-Schutz – Grundlagen für die Praxis (Übersichtsposter)
  - CD-ROM Interfacetechnik

- Feldbustechnik**
- busstop®*-Feldbuskomponenten
  - Bussystem *sensoplex®2*
  - Bussystem *sensoplex®2Ex*
  - Bussystem *sensoplex®MC*
  - Bussystem AS-Interface®
  - Bussystem DeviceNet™
  - Ethernet Netzwerkkomponenten
  - BL20 I/O-Busklemmsystem
  - Bussystem FOUNDATION™ fieldbus
  - Bussystem PROFIBUS-DP
  - Bussystem PROFIBUS-PA
  - Bussystem *piconet®*
  - Remote I/O *excom®*

Please send me more information:

- Sensors**
- inductive sensors
  - inductive sensors for rotary actuators
  - uprox®* inductive sensors
  - capacitive sensors
  - magnetic-field sensors
  - photoelectric sensors
  - machine safety equipment
  - ultrasonic sensors
  - levelprox* level sensors
  - flow controls
  - pressure controls
  - temperature controls
  - identification system
  - linear position sensors
  - rotary position sensors
  - connectors
  - CD-ROM Sensors

- Interface technology**
- devices in modular housings for top-hat rail (DIN50022) or panel mounting
  - devices on 19" card for DIN-rail mounting (DIN 41494)
  - miniature relays, industrial relays, time cubes, sockets
  - programmable relays and timers
  - explosion protection – basics for practical application (overview poster)
  - CD-ROM Interface technology

- Fieldbus technology**
- busstop®* fieldbus components
  - bus system *sensoplex®2*
  - bus system *sensoplex®2Ex*
  - bus system *sensoplex®MC*
  - bus system AS-Interface®
  - bus system DeviceNet™
  - Ethernet network components
  - BL20 I/O bus terminal system
  - bus system FOUNDATION™ fieldbus
  - bus system PROFIBUS-DP
  - bus system PROFIBUS-PA
  - bus system *piconet®*
  - Remote I/O *excom®*

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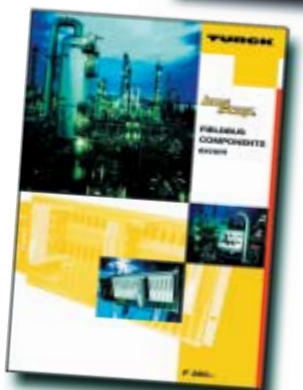
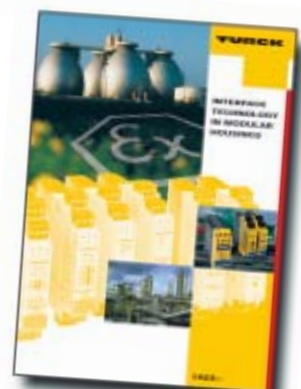
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**TURCK**

**PROCESS  
AUTOMATION**

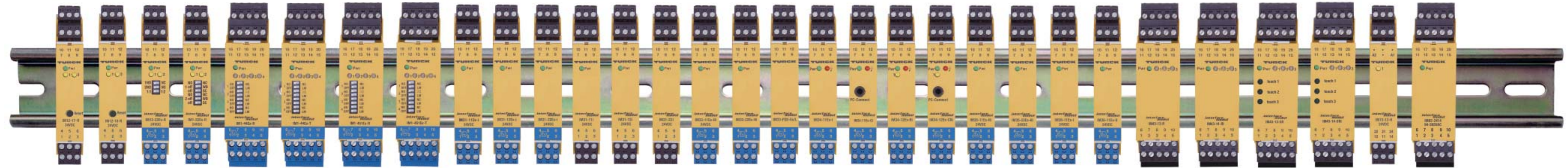


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Subject to change without notice.

D200586 0303

# IM-MODULES - THE NEW INTERFACE SERIES



Type	IM12-17-R	IM12-18-R	IM12-22Ex-R	IM1-22Ex-R	IM1-44Ex-R	IM1-44Ex-T	IM1-451Ex-R	IM1-451Ex-T	IM31-11Ex-i	IM31-12Ex-i	IM31-22Ex-i	IM31-11i	IM31-12i	IM31-22i	IM33-11Ex-Hi	IM33-22Ex-Hi	IM33-FSD-Ex/L	IM34-11Ex-i	IM34-11Ex-Ci	IM34-12Ex-Ri	IM34-12Ex-CRi	IM35-11Ex-Hi	IM35-22Ex-Hi	IM36-11Ex-i	IM36-11Ex-U	IM43-13-R	IM43-14-Ri	IM43-13-SR	IM43-14-SRi	IM73-12-R	IM82-2414	IM82-2450	Type			
Function	switching amplifier	switching amplifier	isolating switching amplifier	isolating switching amplifier	isolating switching amplifier	isolating switching amplifier	isolating switching amplifier	isolating switching amplifier	analogue data transmitter	signal multiplier	analogue data transmitter	analogue data transmitter	analogue data transmitter	analogue data transmitter	HART® isolating transducer	HART® isolating transducer	isolating transducer	temperature measuring amplifier	temperature measuring amplifier	temperature measuring amplifier	temperature measuring amplifier	HART® analogue data transmitter	HART® analogue data transmitter	potentiometer amplifier	potentiometer amplifier	limit value monitor	limit value monitor	limit value monitor	limit value monitor	relay coupler	power supply	power supply	Function			
Operating voltage	24 VDC 230 VAC	230 VAC	24 VDC 230 VAC	24 VDC 230 VAC	20 ... 250 VAC/ 20 ... 125 VDC	20 ... 250 VAC/ 20 ... 125 VDC	20 ... 250 VAC/ 20 ... 125 VDC	20 ... 250 VAC/ 20 ... 125 VDC	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC	24 VDC	without auxiliary power	20 ... 250 VAC/ 20 ... 125 VDC	20 ... 250 VAC/ 20 ... 125 VDC	20 ... 250 VAC/ 20 ... 125 VDC	20 ... 250 VAC/ 20 ... 125 VDC	24 VDC	24 VDC	24 VDC	24 VDC	20 ... 250 VUC	20 ... 250 VUC	20 ... 250 VUC	20 ... 250 VUC	without auxiliary power	94 ... 265 VAC	94 ... 265 VAC	Operating voltage			
Inputs	1 contact	2 contacts	2 NAMUR or contacts	2 NAMUR or contacts	4 NAMUR or contacts	4 NAMUR or contacts	4 NAMUR or contacts	4 NAMUR or contacts	0/4 ... 20 mA	0/4 ... 20 mA	2 x 0/4 ... 20 mA	0/4 ... 20 mA	0/4 ... 20 mA	2 x 0/4 ... 20 mA	0/4 ... 20 mA	2x 0/4 ... 20 mA	2 x 0 ... 40 mA	Ni/Pt100 or thermo-elements	Ni/Pt100 or thermo-elements	Ni/Pt100 or thermo-elements	Ni/Pt100 or thermo-elements	0/4 ... 20 mA	2 x 0/4 ... 20 mA	800 up to 2000 Ω	800 up to 2000 Ω	0/4 ... 20 mA or 0/2 ... 10 V or transmitter	0/4 ... 20 mA or 0/2 ... 10 V or transmitter	0/4 ... 20 mA or 0/2 ... 10 V or transmitter	0/4 ... 20 mA or 0/2 ... 10 V or transmitter	24 VAC/DC 230 VAC	24 V/1,4 A	24 V/5 A	Inputs			
Outputs	2 relay outputs 1 x N.O., with memory function	2 relay outputs N.O., with memory function	2 relay outputs N.O.	2 relay outputs N.O.	4 transistor outputs potential-free	4 relay outputs N.O.	5 relay outputs N.O., including 1 alarm output	5 transistor outputs including 1 alarm output	0/4 ... 20 mA	2 x 0/4 ... 20 mA	2 x 0/4 ... 20 mA	0/4 ... 20 mA	2 x 0/4 ... 20 mA	2 x 0/4 ... 20 mA	0/4 ... 20 mA	2 x 0/4 ... 20 mA	2 x 0 ... 40 mA	1 x 0/4 ... 20 mA	1 x 0/4 ... 20 mA	1 x 0/4 ... 20 mA 1 x relay output (N.O.)	1 x 0/4 ... 20 mA 1 x relay output (N.O.)	0/4 ... 20 mA	2 x 0/4 ... 20 mA	0/4 ... 20 mA	0/2 ... 10 mA	3 relay outputs (N.O.)	3 relay outputs (N.O.), 1 x 0/4 ... 20 mA	3 relay outputs (N.O.)	3 relay outputs (N.O.), 1 x 0/4 ... 20 mA	2 relay outputs (SPDT)	24 V/1,4 A	24 V/5 A	Outputs			
Approvals*			ATEX	ATEX	ATEX	ATEX	ATEX	ATEX	ATEX	ATEX	ATEX				ATEX	ATEX	ATEX	ATEX	ATEX	ATEX	ATEX	ATEX	ATEX	ATEX	ATEX	ATEX						UL/CSA	UL/CSA	Approvals		
Special Features															HART® transmission possible	HART® transmission possible	isolating transducer as fire and smoke alarm																	Special Features		
Availability	immediately	immediately	04/03	04/03	2nd quarter 2003	2nd quarter 2003	2nd quarter 2003	2nd quarter 2003	3rd quarter 2003	3rd quarter 2003	3rd quarter 2003	3rd quarter 2003	3rd quarter 2003	3rd quarter 2003	3rd quarter 2003	3rd quarter 2003	3rd quarter 2003	immediately	immediately	immediately	immediately	04/03	immediately	04/03	06/03	06/03	immediately	immediately	04/03	04/03	04/03	04/03	immediately	immediately	end of 2003	Availability

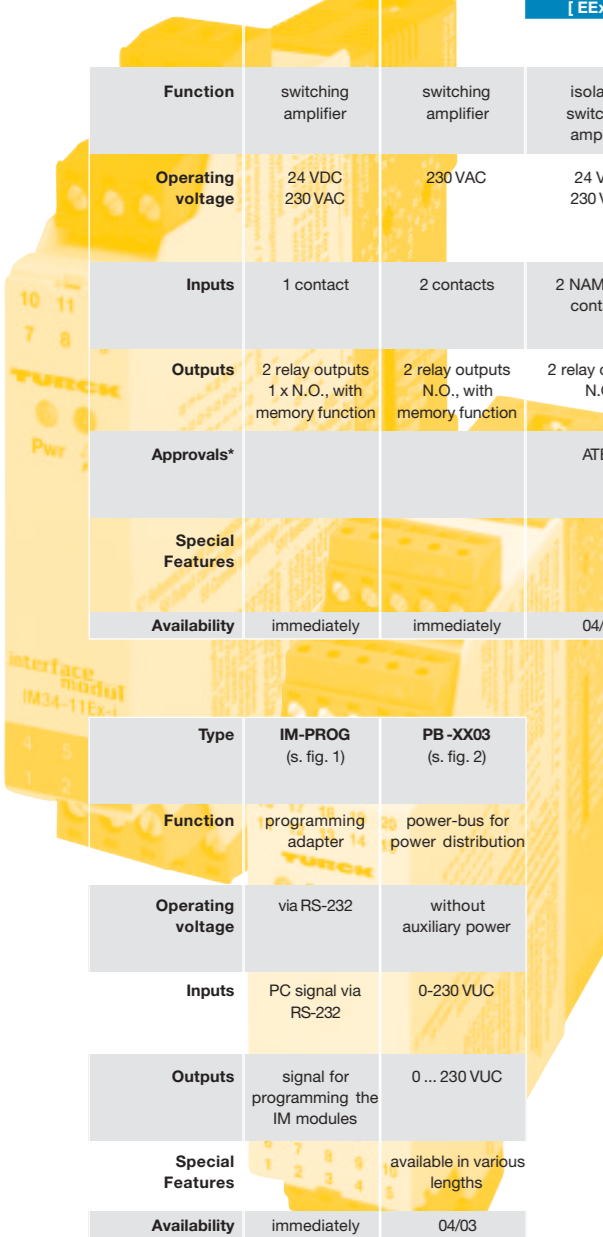


Fig. 1

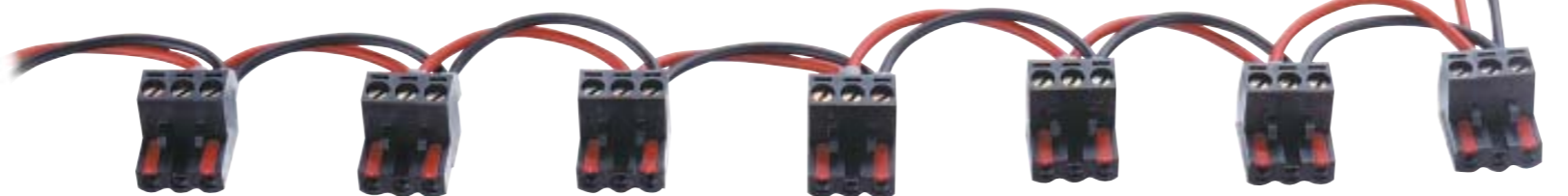
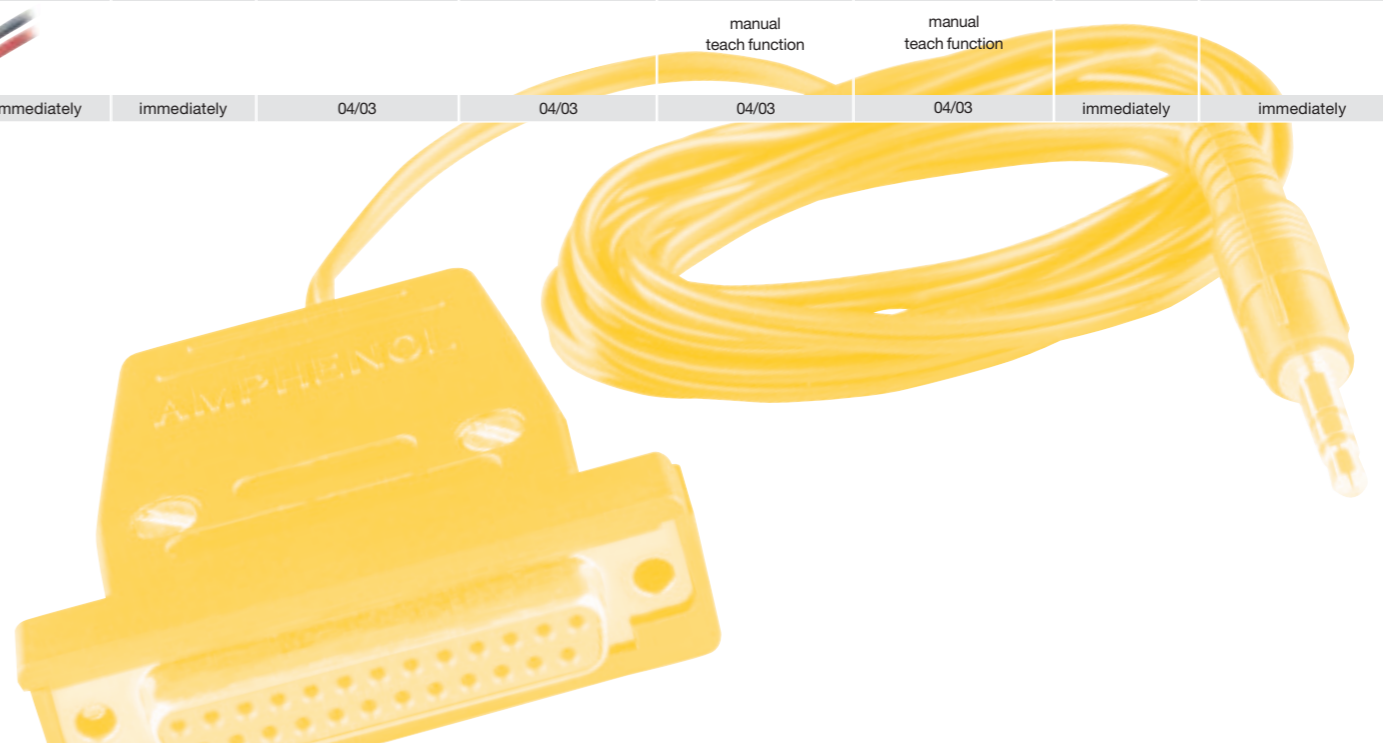


Fig. 2



\*FM/CSA approvals for all IM modules with intrinsically safe circuits pending.

Detailed data sheets on all types for download from the internet:  
[www.turck.com](http://www.turck.com)