

Features

- TR CU
- Power supply of 2-wire measuring transducers with HART® communication as well as connection to active 2-wire and passive 3-wire transmitters
- Input circuit: 0/4...20 mA
- Output circuit: 0/4...20 mA
- SIL2
- Removable terminal blocks, screwable, with 2 mm test socket
- Complete galvanic isolation

The 1-channel HART® isolating transducer IM33-11-HI/24VDC is designed to operate 2-wire HART® transducers (III) and to transmit the measured signal galvanically isolated. Besides the analog signals, digital HART® communication signals can also be transmitted bidirectionally.

Alternatively, active 2-wire HART® transmitters (II) and passive 3-wire HART® transmitters (I) can be operated.

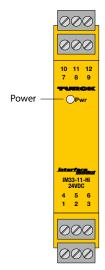
The device features one input and one output circuit, each with 0/4...20 mA. A green LED indicates operational readiness.

The input signal is transmitted 1:1 and is presented to the relevant output in the non-Ex area.

Due to the 1:1 transmission characteristic, wire-break or short-circuit of in the

measuring transducer circuit are indicated as currents of 0 mA resp. > 22.5 mA.

The removable terminal blocks feature test sockets (Ø 2 mm) for connection of a HART® handheld. Other device variants are available on request.



Type IM33-11-HI/24VDC Ident no. 7506447

Power supply

Nominal voltage 24 VDC Operating voltage range 19...29 VDC Power consumption \leq 2.2 W

Inputs

 $\begin{array}{lll} \mbox{Supply voltage} & \geq 17 \mbox{ V} / 20 \mbox{ mA} \\ \mbox{Current} & 25 \mbox{ mA} \\ \mbox{Current input} & 0/4 \dots 20 \mbox{ mA} \\ \mbox{Input resistance (current)} & \leq 250 \mbox{ }\Omega \\ \end{array}$

Outputs

Response characteristic

Measuring accuracy \leq 0.1 % of full scale

Reference temperature 23 °C

Temperature drift $\leq 0.005 \% / K$ Rise time (10-90%) $\leq 50 \text{ ms}$ Dropout time (90...10%) $\leq 50 \text{ ms}$

Approvals and declarations

Declaration SIL 2 acc. to EXIDA FMEDA

Indication

Operational readiness green

Environmental Conditions

Ambient temperature -25...+70 °C Storage temperature -40...+80 °C Relative humidity ≤ 95 % Test voltage 2.5 kV

MTTF 159 years acc. to SN 29500 (Ed. 99)

40 °C

Mechanical data

Tightening torque 0.5 Nm

Electrical connection 4 x 3-pin removable terminal blocks with test socket, reverse polarity

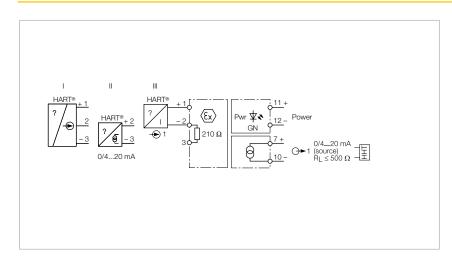
protected, screw connection 1 x 2.5 mm² / 2 x 1.5 mm²

Terminal cross-section 1 x 2.5 mm² / 2 x 1.5 r Housing material Polycarbonate/ABS Mounting instruction for DIN rail / panel

Protection class IP20 Flammability class acc. to UL 94 V-0

Dimensions 18 x 110 x 110 mm

Approval | Certification TR CU



The 1-channel HART® isolating transducer IM33-22EX-HI/24 VDC is designed to operate intrinsically safe HART® 2-wire transducers (III) in the Ex area and to transmit the measured signals to the non-Ex area. Besides the analog signals, digital HART® communication signals can also be transmitted bidirectionally.

Alternatively, active 2-wire HART® transmitters (II) and passive 3-wire HART® transmitters (I) can be operated.

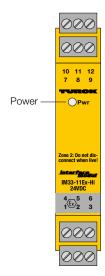
The device features one input and one output circuit, each with 0/4...20 mA. A green LED indicates operational readiness.

The input signal is transmitted 1:1 and is presented to the relevant output in the non-Ex area.

Due to the 1:1 transmission characteristic, wire-break or short-circuit of in the measuring transducer circuit are indicated as currents of 0 mA resp. > 22.5 mA.

Features

- ATEX, IECEx, UL, _CFM_{US}, TR CU, TIIS, CCEO
- Installation in zone 2
- Power supply of 2-wire measuring transducers with HART® communication as well as connection to active 2-wire and passive 3-wire transmitters
- Input circuit: 0/4...20 mA
- Output circuit: 0/4...20 mA
- SIL2
- Removable terminal blocks, screwable, with 2 mm test socket
- Complete galvanic isolation



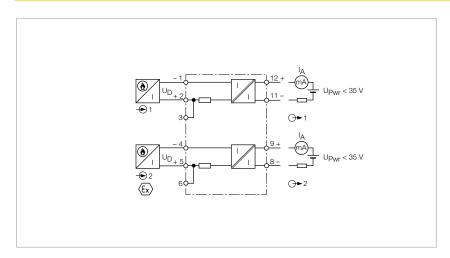
Туре	IM33-11EX-HI/24VDC		
ldent no.	7506440		
Power supply			
Nominal voltage	24 VDC		
Operating voltage range	1929 VDC		
Power consumption	≤ 2.2 W		
Inputs			
Supply voltage	\geq 17 V / 20 mA		
Current	25 mA		
Current input	0/420 mA		
Input resistance (current)	≤ 250 Ω		
Outputs			
Load resistance, current output	\leq 0.5 k Ω		
Output current	0/420 mA		
Internal resistance R _i	317 Ω		
Response characteristic			
Measuring accuracy	≤ 0.1 % of full scale		
Reference temperature	23 ℃		
Temperature drift	\leq 0.005 % / K		
Rise time (10-90%)	≤ 50 ms		
Dropout time (9010%)	≤ 50 ms		
Approvals and declarations			
Ex approval acc. to conformity certificate	TÜV 00 ATEX 1595		
Device designation			
Max. values:	Terminal connection: 13		
Max. output voltage U _o	≤ 21.9 V		
Max. output current I _o	≤ 95 mA		
Max. output power P _o	≤ 747 mW		
Rated voltage	250 V		
Characteristic	Trapezoidal		
Max. input voltage U _i	≤ 40 V		
Max. input power P _i	≤ 650 mW		
External inductance/capacitance L _o /C _o			
Ex ia IIC	IIB		
L _o [mH] 2.8	11		
C ₀ [μF] 0.057	0.370		
Ex approval acc. to conformity certificate	TÜV 06 ATEX 552977 X		
Application area	II 3 G		
Protection type	Ex nA [ic Gc] IIC T4 Gc		
Max. values:	Terminal connection: 13		
Max.output voltage U _o	≤ 21.9 V		
Max. output current I _o	≤ 95 mA		
Characteristic	trapezoidal		
	≤ 40 V		
Max. input voltage U _i	≤ 40 V		

Ex ic	IIC	IIB		
L _o [mH]	3	10.0		
$C_o[\mu F]$	0.12	0.81		
Internal resistance R _i		331 Ω		
Declaration		SIL 2 acc. to EXIDA FMEDA		
Indication	1			
Operational readiness		green		
Environm	ental Conditions			
Ambient te	mperature	-25+70 ℃		
Storage ter	nperature	-40+80 °C		
Relative hu	midity	≤ 95 %		
Test voltag	e	2.5 kV		
MTTF		159 years acc. to SN 29500 (Ed. 99)		
MTTF		40 °C		
MTTF Mechanic	al data	40 °C		
		40 °C 0.5 Nm		

medianical data	
Tightening torque	0.5 Nm
Electrical connection	4 x 3-pin removable terminal blocks with test socket, reverse polarity protected, screw connection
Terminal cross-section	1 x 2.5 mm ² / 2 x 1.5 mm ²
Housing material	Polycarbonate/ABS
Mounting instruction	for DIN rail / panel
Protection class	IP20
Flammability class acc. to UL 94	V-0
Dimensions	18 x 110 x 110 mm
Approval Certification	ATEX IECEX III EM TR CII TIIS

val | CertificationATEX, IECEX, UL, _CFM_{us}, TR CU, TIIS
CCOE

Isolating transducer, 1-channel



Features

- ATEX, _CFM_{US}, TR CU
- Isolating transducer without auxiliary power
- Power supply for fire and smoke detectors
- Signal transmission: 0...40 mA
- Removable terminal blocks, screwable, with 2 mm test socket
- Complete galvanic isolation

The 1-channel isolating transducer for fire and smoke detectors IM33-FSD-EX/L is designed especially for connection of conventional fire and smoke detectors in the Ex-area.

They are supplied with energy. Actuation of a smoke detector results in a current change and the according signal is transmitted to the non-Ex area. Several detectors can be connected to one circuit.

The isolating transducer is loop-powered and has to be connected directly to power-supplying input circuits of evaluation units. Thereby normalized current signals of 0/4...20 mA are transmitted. The voltage drop across the device is to be observed.

Input and output circuits are galvanically isolated from each other. The inputs of the isolating transducer are reverse polarity protected.

A current-to-ground error can be detected safely via an external current-to-ground detector.



 Type
 IM33-FSD-EX/L

 Ident no.
 7506433

Power supply

Nominal voltage 24 VDC loop-powered

Inputs

 $\begin{array}{lll} \text{Supply voltage} & & \text{U}_{Pwr} - 1 \text{ VDC} - 300 \ \Omega \times \text{I}_A \\ \text{Supply voltage} & & \geq 17 \text{ V} / 20 \text{ mA} \\ \text{Input resistance} & & 300 \ \Omega \\ \text{Voltage input} & & \text{max. 30 VDC} \\ \text{Current input} & & 0/4 \dots 20 \text{ mA} \end{array}$

Outputs

 $\begin{array}{ll} \mbox{Output circuits} & \mbox{0...40 mA} \\ \mbox{Load} & \leq 500 \ \Omega \\ \mbox{Output current} & \mbox{0/4...20 mA} \end{array}$

Response characteristic

Measuring accuracy \leq 2 % of full scale

Reference temperature 23 °C
Temperature drift $\leq 0.1 \% / K$ Rise time (10-90%) $\leq 10 \text{ ms}$ Dropout time (90...10%) $\leq 10 \text{ ms}$

Approvals and declarations

Ex approval acc. to conformity certificate

TÜV 02 ATEX 1862

Device designation

Example II (1) GD [EEx ia] IIC

 $\begin{array}{ll} \text{Max. output voltage U}_{o} & \leq 27.3 \text{ V} \\ \text{Max. output current I}_{o} & \leq 90 \text{ mA} \\ \text{Max. output power P}_{o} & \leq 615 \text{ mW} \\ \text{Rated voltage} & 250 \text{ V} \\ \text{Characteristic} & \text{linear} \end{array}$

External inductance/capacitance $L_{\text{o}}/C_{\text{o}}$

EEx ia	IIC	IIB
L _o [mH]	1	5
C _o [nF]	70	300

Environmental Conditions

Ambient temperature -20...+70 °C Storage temperature -40...+80 °C Test voltage 2.5 kV

Mechanical data

Tightening torque 0.5 Nm

Electrical connection 4 x 3-pin removable terminal blocks

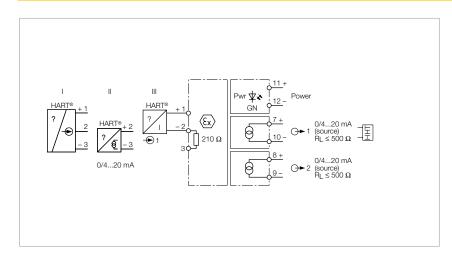
with test socket, reverse polarity protected, screw connection

Terminal cross-section 1 x 2.5 mm² / 2 x 1.5 mm²
Housing material Polycarbonate/ABS
Mounting instruction for DIN rail / panel

Protection class IP20 Flammability class acc. to UL 94 V-0

Dimensions 18 x 110 x 110 mm

Approval | Certification ATEX, cFMus, TR CU



The 1-channel HART® isolating transducer IM33-22Ex-HI/24 VDC is designed to operate intrinsically safe HART® 2-wire transducers (III) in the Ex area and to transmit the measured signals to the non-Ex area. Besides the analog signals, digital HART® communication signals can also be transmitted bidirectionally.

Alternatively, active 2-wire HART® transmitters (II) and passive 3-wire HART® transmitters (I) can be operated.

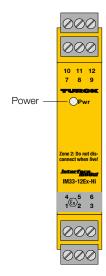
The device features one input and two output circuits, for 0/4...20 mA. A green LED indicates operational readiness.

The input signal is transmitted 1:1 and is presented to the relevant outputs in the non-Ex area. The HART® signal is transmitted to output 1.

Due to the 1:1 transmission characteristic, wire-break or short-circuit of in the measuring transducer circuit are indicated as currents of 0 mA resp. > 22.5 mA.

Features

- ATEX, IECEx, UL, _CFM_{US}, TR CU, TIIS, CCEO
- Installation in zone 2
- Power supply of 2-wire measuring transducers with HART® communication as well as connection to active 2-wire and passive 3-wire transmitters
- Input circuit: 0/4...20 mA
- Output circuits: 0/4...20 mA
- SIL2
- Removable terminal blocks, screwable, with 2 mm test socket
- Complete galvanic isolation

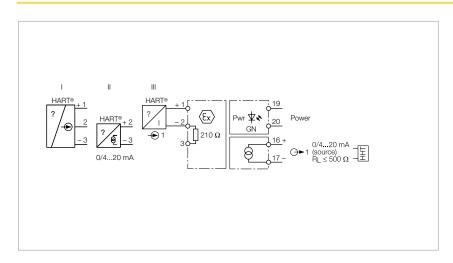


Туре	IM33-12EX-HI/24VDC	External inductance/capacitance	L _o /C _o
Ident no.	7506446	Ex ic IIC	IIB
		L ₀ [mH] 3	10.0
Power supply		C ₀ [μF] 0.12	0.81
Nominal voltage	24 VDC	Internal resistance R _i	331 Ω
Operating voltage range	1929 VDC	Declaration	SIL 2 acc. to EXIDA FMEDA
Power consumption	≤ 3.2 W		
Inputs		Indication	
Supply voltage	\geq 17 V / 20 mA	Operational readiness	green
Current input	0/420 mA	F	
Input resistance (current)	≤ 250 Ω	Environmental Conditions	25 . 70.90
		Ambient temperature	-25+70 °C
Outputs		Storage temperature	-40+80 °C
Load resistance, current output	$\leq 0.5 \text{ k}\Omega$	Relative humidity	≤ 95 %
Output current	0/420 mA	Test voltage MTTF	2.5 kV
Internal resistance R _i	317 Ω	MIIF	159 years acc. to SN 29500 (Ed. 99) 40 °C
Response characteristic		Mechanical data	
Measuring accuracy	\leq 0.1 % of full scale	Tightening torque	0.5 Nm
Reference temperature	23 ℃	Electrical connection	4 x 3-pin removable terminal blocks
Temperature drift	\leq 0.005 % / K		with test socket, reverse polarity
Rise time (10-90%)	≤ 50 ms		protected, screw connection
Dropout time (9010%)	≤ 50 ms	Terminal cross-section	1 x 2.5 mm ² / 2 x 1.5 mm ²
		Housing material	Polycarbonate/ABS
Approvals and declarations		Mounting instruction	for DIN rail / panel
Ex approval acc. to conformity certificate	TÜV 00 ATEX 1595	Protection class	IP20
Device designation		Flammability class acc. to UL 94 Dimensions	V-0 18 x 110 x 110 mm
Max. values:	Terminal connection: 13		
Max. output voltage U_o	≤ 21.9 V	Approval Certification	ATEX, IECEx, UL, _c FM _{us} , TR CU, TIIS,
Max. output current I _o	≤ 95 mA		CCOE
Max. output power P _o	≤ 747 mW		
Rated voltage	250 V		
Characteristic	Trapezoidal		
Max. input voltage U _i	≤ 40 V		
Max. input power P _i	≤ 650 mW		
External inductance/capacitance L _o /C _o			
Ex ia IIC	IIB		
L _o [mH] 2.8	11		
C ₀ [μF] 0.057	0.370		
Ex approval acc. to conformity certificate	TÜV 06 ATEX 552977 X		
Application area	II 3 G		
Protection type	Ex nA [ic Gc] IIC T4 Gc		
Max. values:	Terminal connection: 13		
Max.output voltage $\rm U_{\rm o}$	≤ 21.9 V		
Max. output current I _o	≤ 95 mA		
Characteristic	trapezoidal		
Mary innut valtage II	~ 10 V		

 \leq 40 V \leq 650 mW

Max. input voltage Ui

Max. input power P_i



Features

- ATEX, IECEx, CFMUS, TR CU, INMETRO
- Installation in zone 2
- Power supply of 2-wire measuring transducers with HART® communication as well as connection to active 2-wire and passive 3-wire transmitters
- Input circuit: 0/4...20 mA
- Output circuit: 0/4...20 mA
- Removable terminal blocks, screwable, with 2 mm test socket
- Complete galvanic isolation

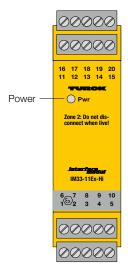
The 1-channel HART® isolating transducer IM33-11EX-HI is designed to operate intrinsically safe HART® 2-wire transducers (III) in the Ex area and to transmit the measured signal to the non-Ex area. Besides the analog signals, digital HART® communication signals can also be transmitted bidirectionally.

Alternatively, active 2-wire HART® transmitters (II) and passive 3-wire HART® transmitters (I) can be operated.

The device features one input and one output circuit, for 0/4...20 mA. A green LED indicates operational readiness.

The input signal is transmitted 1:1 and is presented to the relevant output in the non-Ex area.

Due to the 1:1 transmission characteristic, wire-break or short-circuit of in the measuring transducer circuit are indicated as currents of 0 mA resp. > 22.5 mA.



Technical data

reciiiicai uata			
Туре	IM33-11EX-HI	Internal inductance/capacitance L_i/C_i	$L_i = 75 \mu H$, C_i negligibly small
Ident no.	7506443	External inductance/capacitance L_o	/C ₀
		Ex nL IIC	Ex nL IIB
Power supply		L₀ [mH] 4.5	10
Nominal voltage	Universal voltage supply unit	C _o [nF] 157	890
Operating voltage range	20125 VDC	Internal resistance R _i	365 Ω
Operating voltage range	20250 VAC		
Frequency	4070 Hz	Indication	
Power consumption	≤3 W	Operational readiness	green
Inputs		Environmental Conditions	
Supply voltage	\geq 17 V / 20 mA	Ambient temperature	-25…+70 °C
Current	25 mA	Storage temperature	-23+70 ℃ -40+80 ℃
Current input	0/420 mA	Test voltage	-40+00 € 2.5 kV
Input resistance (current)	≤ 250 Ω	rest voitage	2.3 KV
Outputs		Mechanical data	
Load resistance, current output	≤ 0.5 kΩ	Tightening torque	0.5 Nm
Output current	0/420 mA	Electrical connection	4 x 5-pin removable terminal blocks with test socket, reverse polarity protected, screw connection
Response characteristic		Terminal cross-section	1 x 2.5 mm ² / 2 x 1.5 mm ²
Measuring accuracy	\leq 0.1 % of full scale	Housing material	Polycarbonate/ABS
Reference temperature	23 ℃	Mounting instruction	for DIN rail / panel
Temperature drift	\leq 0.005 % / K	Protection class	IP20
Rise time (10-90%)	≤ 50 ms	Flammability class acc. to UL 94	V-0
Dropout time (9010%)	≤ 50 ms	Dimensions	27 x 110 x 110 mm
Approvals and declarations		Approval Certification	ATEX, IECEx, cFMus, TR CU, INMETRO
Ex approval acc. to conformity certificate	TÜV 05 ATEX 2910	,	, , , , ,
Device designation			
Max. values:	Terminal connection: 13		
Max. output voltage U ₀	≤ 21.3 V		
Max. output current I _o	≤ 86 mA		
Max. output power P _o	≤ 675 mW		
Internal resistance R _i	365 Ω		
Rated voltage	250 V		
Characteristic	Trapezoidal		
External inductance/capacitance L _o /C _o	·		
Ex ia IIC	IIB		
L ₀ [mH] 0.47	10		
C ₀ [μF] 0.093	0.45		
Ex approval acc. to conformity certificate	TÜV 06 ATEX 2967 X		
Application area	II 3 G		
Protection type	Ex nA [ic Gc] IIC T4 Gc		
Max. values:	Terminal connection: 13		
May output voltage II	~ 21 2 V		

 \leq 21.3 V

 \leq 86 mA

 \leq 675 mW

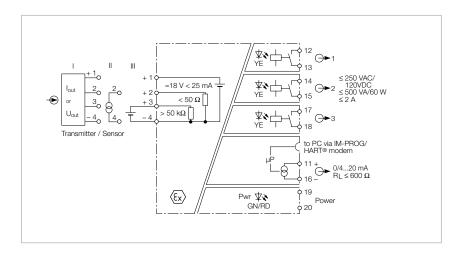
trapezoidal

Max.output voltage $U_{\rm o}$

Max. output current $I_{\rm o}$

Max. output power P_o

Characteristic



The 1-channel isolating transducer IM33-14EX-CDRI is designed to operate intrinsically safe transmitters in the Ex area and to transmit the measured signals to the non-Ex area.

The device features one output for analog signals 0/4...20 mA and three outputs for limit value relays. The measured value can be viewed on a 2-line display. A green LED indicates operational readiness, 3 yellow LEDs indicate the

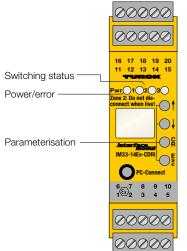
switching status of the individual channels.

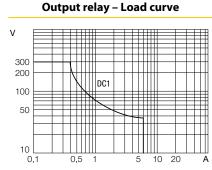
The measured value is permanently written to a ring buffer with space for 8000 values. The writing process is stopped with a predefined trigger event, like for example "excess of limit value". After that, the stored signal sequence can be read out.

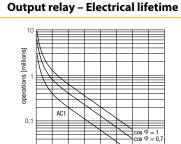
Features

- ATEX, IECEx, TR CU
- Intrinsically safe input circuit Ex ia
- Installation in zone 2
- Monitors over and underrange of analog values and window limits
- Parametrized via PC (FDT / DTM), front-panel switch or HART®
- Power supply of 2 and 3-wire measuring transducers
- Suited for active and passive signals
- Output circuit: 0/4...20 mA, reversible
- 3 relay outputs
- Complete galvanic isolation

The device can be parametrized and configured via PC (FDT / DTM). For this, connect the device to the PC via the 3.5 mm jack on the front (the matching transmission cable IM-PROG III can be ordered separately from TURCK). A basic scope of parameters can be set via buttons and display on the front or remotely via the current interface and HART*.







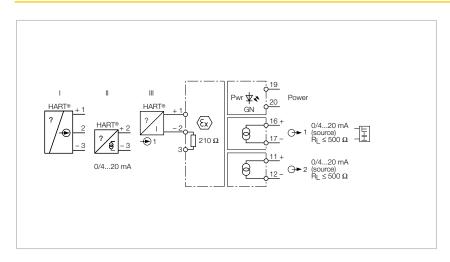
Туре			IM33-14EX-CDRI			
ldent no.		7560015				
Power sup	nnlv					
Nominal vo			Universa	l voltane sun	nly unit	
Operating v	-	nae	Universal voltage supply unit 20125 VDC			
Operating	-	=				
Frequency	voitage rai	nge	20250 VAC			
	umntion		4070 Hz			
Power consumption Residual ripple			≤3 W			
		≤ 10 mV	SS			
Inputs						
Supply volt	age		\geq 17 V /	20 mA		
Current			25 mA			
Voltage inp	out		0/210	VDC		
Current inp	ut		0/420) mA		
Outputs						
Load resist	ance, curre	ent output	\leq 0.6 k Ω	!		
Output curi		•	0/420) mA		
Output circ		al)	3 x relay:	s (NO)		
Switching 1	-		≤ 10 Hz			
Relay switc		nge	≤ 250 V/	AC/120 VDC		
Switching current per output			≤ 2 A			
Switching capacity per output			≤ 500 VA/60 W			
Fault curre			0 / 22 mA adjustable			
Contact qu	ality		AgNi, 3μ	•		
·	,					
Response		ristic	. 0.05.0	/ ((II)		
Measuring				6 of full scale		
Reference t			23 °C			
Iemperatu	re drift an	alogue output	0.0025 %	6/K		
Approvals						
		onformity certificate	IBExU 07 ATEX 1156			
Device desi	gnation					
			ia Da] IIIC Terminal connection: 14			
Max. value					14	
Max. outpu	-	-		≤ 21.6 V		
Max. outpu		•		≤ 85 mA		
Max. outpu				\leq 459 mW		
Internal res			408 Ω			
Rated voltage			250 V	250 V		
Characteristic			Trapezoidal			
Max. input voltage U _i			≤ 40 V			
Max. input power P _i		≤ 600 mW				
		capacitance L _i /C _i	negligibl	negligible		
		:e/capacitance L _o /C _o				
Ex ia	IIC		IIB			
L _o [mH]	0.3	0.15	5	1	0.15	
C ₀ [μF]	30	50	630	680	950	
Ex approva	l acc. to co	onformity certificate	IBExU 07	ATEX B015 X	(
Application area			II 3 G			
D44!	The state of the s			11.5 U		

Max. values:				Terminal connection: 14				
Max.outpu	ıt voltage U)		≤ 21.6 V	≤ 21.6 V			
Max. outpu	Max. output current I _o				≤ 85 mA			
Max. output power P _o Internal resistance R _i Characteristic Max. input voltage U _i Max. input power P _i				≤ 459 mW				
				408 Ω	408 Ω			
				trapezoi	trapezoidal ≤ 40 V ≤ 600 mW negligible			
				\leq 40 V				
				≤ 600 m				
Internal inductance/capacitance L _i /C _i			negligib					
External i	inductance	e/capacitano	ce L _o /C _o					
Ex ic	IIC			IIB				
L₀ [mH]	4	0.5	0.15	5	1	0.15		
C ₀ [μF]	0.17	0.21	0.25	1	1.2	1.4		
Indication	n							
Operationa	al readiness			green				
Switching:				yellow red				
Error indica	ation							
Environm	ental Cond	ditions						
Ambient to	emperature			-25+	-70 °C			
Storage temperature			-40+80 °C 2.5 kV					
Test voltage								
Mechanic	al data							
Tightening	ightening torque			0.5 Nm				

	•••
Electrical connection	4 x 5-pin removable terminal blocks, reverse polarity protected, screw connection
Terminal cross-section	1 x 2.5 mm ² / 2 x 1.5 mm ²
Housing material	Polycarbonate/ABS
Mounting instruction	for DIN rail / panel
Protection class	IP20
Flammability class acc. to UL 94	V-0
Dimensions	27 x 104 x 110 mm

Protection type

Ex nA nC [ic Gc] IIC T4 Gc



Features

- ATEX, IECEx, CFMUS, TR CU, INMETRO
- Installation in zone 2
- Power supply of 2-wire measuring transducers with HART® communication as well as connection to active 2-wire and passive 3-wire transmitters
- Input circuit: 0/4...20 mA
- Output circuit: 0/4...20 mA
- Removable terminal blocks, screwable, with 2 mm test socket
- Complete galvanic isolation

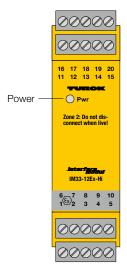
The 1-channel HART® isolating transducer IM33-12EX-HI is designed to operate intrinsically safe HART® 2-wire transducers (III) in the Ex area and to transmit the measured signals to the non-Ex area. Besides the analog signals, digital HART® communication signals can also be transmitted bidirectionally.

Alternatively, active 2-wire HART® transmitters (II) and passive 3-wire HART® transmitters (I) can be operated.

The device features one input and two output circuits, for 0/4...20 mA. A green LED indicates operational readiness.

The input signal is transmitted 1:1 and is presented to the relevant outputs in the non-Ex area. The HART® signal is transmitted to output 1.

Due to the 1:1 transmission characteristic, wire-break or short-circuit of in the measuring transducer circuit are indicated as currents of 0 mA resp. > 22.5 mA.



Туре	IM33-12EX-HI	Internal inductance/capacitance L _i /C _i	$L_i = 75 \mu H$, C_i negligibly small
Ident no.	7506444	External inductance/capacitance L _o /C _o	$\mathbf{c}_{i} = 75 \mu \mathrm{Hz}$, \mathbf{c}_{i} in equipoly simular
		Ex nL IIC	Ex nL IIB
Power supply		L ₀ [mH] 4.5	10
Nominal voltage	Universal voltage supply unit	C ₀ [nF] 157	890
Operating voltage range	20125 VDC		
Operating voltage range	20250 VAC	Internal resistance R _i	365 Ω
Frequency	4070 Hz		
Power consumption	≤ 3 W	Indication	
Residual ripple	\leq 10 mV _{ss}	Operational readiness	green
		F	
Inputs		Environmental Conditions	25 . 70.00
Supply voltage	\geq 17 V / 20 mA	Ambient temperature	-25+70 °C
Current	25 mA	Storage temperature	-40+80 °C
Current input	0/420 mA	Test voltage	2.5 kV
Input resistance (current)	≤ 250 Ω		
•		Mechanical data	
Outputs		Tightening torque	0.5 Nm
Load resistance, current output	≤ 0.5 kΩ	Electrical connection	4 x 5-pin removable terminal blocks
Output current	0/420 mA		with test socket, reverse polarity protected, screw connection
·		Terminal cross-section	1 x 2.5 mm ² / 2 x 1.5 mm ²
Response characteristic		Housing material	Polycarbonate/ABS
Measuring accuracy	≤ 0.1 % of full scale	Mounting instruction	for DIN rail / panel
Reference temperature	23 °C	Protection class	IP20
Temperature drift	≤ 0.005 % / K	Flammability class acc. to UL 94	V-0
Rise time (10-90%)	≤ 50 ms	Dimensions	27 x 110 x 110 mm
Dropout time (9010%)	≤ 50 ms	Difficusions	27 X 110 X 110 11111
propout time (501070)	3 50 His	Approval Certification	ATEX, IECEx, cFM _{us} , TR CU, INMETRO
Approvals and declarations		Approval certification	ATEA, IECEA, CIMUS, ITI CO, INMETITO
Ex approval acc. to conformity certificate	TÜV 05 ATEX 2910		
Device designation	(Ex ia Ga] IIC; [Ex ia Da] IIC; [Ex ia Da] IIIC		
Max. values:	Terminal connection: 13		
Max. output voltage U_0	≤ 21.3 V		
Max. output current I _o	≤ 86 mA		
Max. output power P _o	≤ 675 mW		
Internal resistance R _i	365 Ω		
Rated voltage	250 V		
Characteristic	Trapezoidal		
External inductance/capacitance L _o /C _o			
Ex ia IIC	IIB		
L ₀ [mH] 0.47	10		
$\frac{c_0 \text{ [IIII]}}{C_0 \text{ [µF]}} = 0.093$	0.45		
Ex approval acc. to conformity certificate	TÜV 06 ATEX 2967 X		
Application area	3G		
Protection type	Ex nA [ic Gc] IIC T4 Gc		

Terminal connection: 1...3

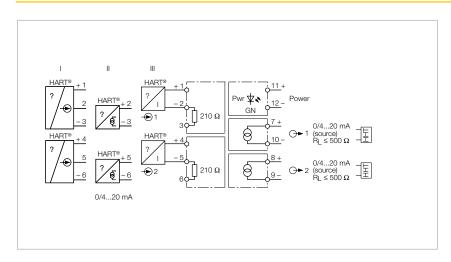
≤ 21.3 V

 \leq 86 mA \leq 675 mW

trapezoidal

Max. output current $I_{\rm o}$

Max. output power P_o Characteristic



The 2-channel HART® isolating transducer IM33-22-HI/24VDC is designed to operate intrinsically safe HART® transducers. Besides the analog signals, digital HART® communication signals can also be transmitted bidirectionally.

Alternatively, active 2-wire HART® transmitters (II) and passive 3-wire HART® transmitters (I) can be operated.

The device features 0/4...20 mA input and output circuits. A green LED indicates operational readiness.

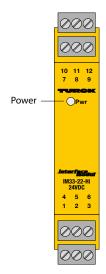
The input signals are transmitted 1:1 and are presented to the relevant outputs in the non-Ex area.

Due to the 1:1 transmission characteristic, wire-break or short-circuit of in the

Features

- TR CU
- Power supply of 2-wire measuring transducers with HART® communication as well as connection to active 2-wire and passive 3-wire transmitters
- Input circuit: 0/4...20 mA
- Output circuit: 0/4...20 mA
- = SIL 2
- Removable terminal blocks, screwable, with 2 mm test socket
- Complete galvanic isolation

measuring transducer circuit are indicated as currents of 0 mA resp. > 22.5 mA.



Type IM33-22-HI/24VDC Ident no. 7506564

Power supply

 $\begin{tabular}{lll} Nominal voltage & 24 VDC \\ Operating voltage range & 19...29 VDC \\ Power consumption & \le 3.2 \ W \\ \end{tabular}$

Inputs

 $\begin{array}{lll} \mbox{Supply voltage} & \geq 17 \mbox{ V} / 20 \mbox{ mA} \\ \mbox{Current input} & 0/4 \dots 20 \mbox{ mA} \\ \mbox{Input resistance (current)} & \leq 250 \mbox{ }\Omega \\ \end{array}$

Outputs

 $\begin{tabular}{lll} Load resistance, current output & $\leq 0.5 \ k\Omega$ \\ Output current & $0/4...20 \ mA$ \\ \end{tabular}$

Response characteristic

 $\label{eq:measuring} \mbox{Measuring accuracy} \qquad \qquad \leq 0.1 \, \% \mbox{ of full scale}$

Reference temperature 23 °C

Temperature drift $\leq 0.005 \% / K$ Rise time (10-90%) $\leq 50 \text{ ms}$ Dropout time (90...10%) $\leq 50 \text{ ms}$

Approvals and declarations

Declaration SIL 2 acc. to EXIDA FMEDA

Indication

Operational readiness green

Environmental Conditions

Ambient temperature $-25...+70\,^{\circ}\text{C}$ Storage temperature $-40...+80\,^{\circ}\text{C}$ Relative humidity $\leq 95\,\%$ Test voltage 2.5 kV

MTTF 159 years acc. to SN 29500 (Ed. 99)

40 °C

Mechanical data

Tightening torque 0.5 Nm

Electrical connection 4 x 3-pin removable terminal blocks with test socket, reverse polarity

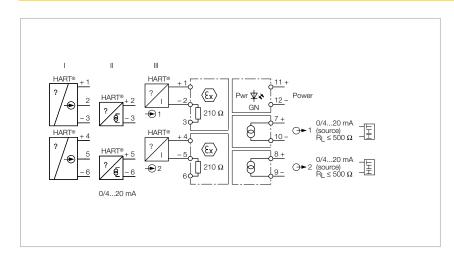
protected, screw connection $1 \times 2.5 \text{ mm}^2 / 2 \times 1.5 \text{ mm}^2$

Terminal cross-section 1 x 2.5 mm² / 2 x 1.5 r Housing material Polycarbonate/ABS Mounting instruction for DIN rail / panel

Protection class IP20
Flammability class acc. to UL 94 V-0

Dimensions 18 x 110 x 110 mm

Approval | Certification TR CU



The 2-channel HART® isolating transducer IM33-22EX-HI/24VDC is designed to operate intrinsically safe HART® 2-wire transducers (III) in the Ex area and to transmit the measured signals to the non-Ex area. Besides the analog signals, digital HART® communication signals can also be transmitted bidirectionally.

Alternatively, active 2-wire HART® transmitters (II) and passive 3-wire HART® transmitters (I) can be operated.

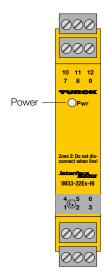
The device features 0/4...20 mA input and output circuits. A green LED indicates operational readiness.

The input signals are transmitted 1:1 and are presented to the relevant outputs in the non-Ex area.

Due to the 1:1 transmission characteristic, wire-break or short-circuit of in the measuring transducer circuit are indicated as currents of 0 mA resp. > 22.5 mA.

Features

- ATEX, IECEx, UL, _CFM_{US}, TR CU, TIIS, CCEO
- Installation in zone 2
- Power supply of 2-wire measuring transducers with HART® communication as well as connection to active 2-wire and passive 3-wire transmitters
- Input circuits: 0/4...20 mA
- Output circuits: 0/4...20 mA
- SIL2
- Removable terminal blocks, screwable, with 2 mm test socket
- Complete galvanic isolation

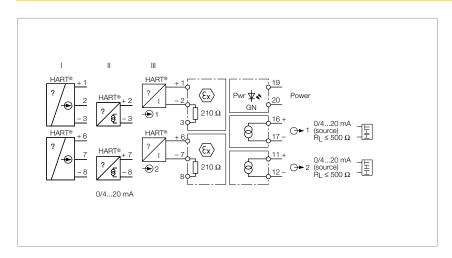


Туре	IM33-22EX-HI/24VDC	External inductance/capacitance L _o /C	0
ldent no.	7506441	Ex ic IIC	IIB
		L₀ [mH] 3	10.0
Power supply		C _o [μF] 0.12	0.81
Nominal voltage	24 VDC	Internal resistance R _i	331 Ω
Operating voltage range	1929 VDC	Declaration	SIL 2 acc. to EXIDA FMEDA
Power consumption	≤ 3.2 W		
Inputs		Indication Operational readiness	groon
Supply voltage	\geq 17 V / 20 mA	operational readilless	green
Current input	0/420 mA	Environmental Conditions	
Input resistance (current)	≤ 250 Ω	Ambient temperature	-25+70 °C
		Storage temperature	-40+80 °C
Outputs		Relative humidity	≤95%
Load resistance, current output	\leq 0.5 k Ω	Test voltage	2.5 kV
Output current	0/420 mA	MTTF	159 years acc. to SN 29500 (Ed. 99)
Internal resistance R _i	317 Ω		40°C
Response characteristic		Mechanical data	
Measuring accuracy	\leq 0.1 % of full scale	Tightening torque	0.5 Nm
Reference temperature	23 °C	Electrical connection	4 x 3-pin removable terminal blocks
Temperature drift	\leq 0.005 % / K		with test socket, reverse polarity
Rise time (10-90%)	≤ 50 ms	* · · ·	protected, screw connection
Dropout time (9010%)	≤ 50 ms	Terminal cross-section	1 x 2.5 mm ² / 2 x 1.5 mm ²
		Housing material	Polycarbonate/ABS
Approvals and declarations		Mounting instruction Protection class	for DIN rail / panel IP20
Ex approval acc. to conformity certificate	TÜV 00 ATEX 1595	Flammability class acc. to UL 94	V-0
Device designation	(Ex ia Ga] IIC; [Ex	Dimensions	18 x 110 x 110 mm
Max. values:	ia Da] IIIC Terminal connection: 13 / 46	DITICIISIOIIS	10 % 1 10 % 1 10 111111
	≤ 21.9 V	Approval Certification	ATEX, IECEx, UL, _c FM _{us} , TR CU, TIIS,
Max. output voltage U _o	≤ 21.9 v ≤ 95 mA	Approval Certification	CCOE
Max. output current I ₀			
Max. output power P _o	≤ 747 mW		
Rated voltage Characteristic	250 V Trapezoidal		
Max. input voltage U _i	stapezotuai ≤ 30 V		
Max. input power P _i	≤ 650 mW		
External inductance/capacitance L ₀ /C ₀	≥ 0.00 III.M		
Ex ia IIC	IIB		
L _o [mH] 2.8	11		
C ₀ [μF] 0.057	0.370		
Ex approval acc. to conformity certificate	TÜV 06 ATEX 552977 X		
Application area	II 3 G		
Protection type	Ex nA [ic Gc] IIC T4 Gc		
Max. values:	Terminal connection: 13 / 46		
Max.output voltage U₀	≤ 21.9 V		
Max. output current I _o	≤ 95 mA		
Characteristic	trapezoidal		

 \leq 30 V \leq 650 mW

Max. input voltage Ui

Max. input power P_i



Features

- ATEX, IECEx, CFMUS, TR CU, INMETRO
- Installation in zone 2
- Power supply of 2-wire measuring transducers with HART® communication as well as connection to active 2-wire and passive 3-wire transmitters
- Input circuits: 0/4...20 mA
- Output circuits: 0/4...20 mA
- Complete galvanic isolation

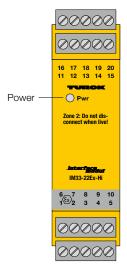
The 2-channel HART® isolating transducer IM33-22EX-HI is designed to operate intrinsically safe HART® 2-wire transducers (III) in the Ex area and to transmit the measured signals to the non-Ex area. Besides the analog signals, digital HART® communication signals can also be transmitted bidirectionally.

Alternatively, active 2-wire HART® transmitters (II) and passive 3-wire HART® transmitters (I) can be operated.

The device features 0/4...20 mA input and output circuits. A green LED indicates operational readiness.

The input signals are transmitted 1:1 and are presented to the relevant outputs in the non-Ex area.

Due to the 1:1 transmission characteristic, wire-break or short-circuit of in the measuring transducer circuit are indicated as currents of 0 mA resp. > 22.5 mA.



Technical data			
Type Ident no.	IM33-22EX-HI 7506445	Internal inductance/capacitance L_i/C_i External inductance/capacitance L_o/C_o	$L_i = 75 \mu H$, C_i negligibly small
ident no.	7300443		F I IID
Power supply		Ex nL IIC	Ex nL IIB
Nominal voltage	Universal voltage supply unit	L _o [mH] 4.5 C _o [nF] 157	10 890
Operating voltage range	20125 VDC		
Operating voltage range	20250 VAC	Internal resistance R _i	365 Ω
Frequency	4070 Hz		
Power consumption	≤ 3 W	Indication	
•		Operational readiness	green
Inputs		Environmental Conditions	
Supply voltage	\geq 17 V / 20 mA		-25…+70 ℃
Current	25 mA	Ambient temperature Storage temperature	-23+70 °C -40+80 °C
Current input	0/420 mA		-40+60 C 2.5 kV
Input resistance (current)	≤ 250 Ω	Test voltage	2.5 KV
Outputs		Mechanical data	
Load resistance, current output	≤ 0.5 kΩ	Tightening torque	0.5 Nm
Output current	0/420 mA	Electrical connection	4 x 5-pin removable terminal blocks with test socket, reverse polarity protected, screw connection
Response characteristic		Terminal cross-section	1 x 2.5 mm ² / 2 x 1.5 mm ²
Measuring accuracy	\leq 0.1 % of full scale	Housing material	Polycarbonate/ABS
Reference temperature	23 ℃	Mounting instruction	for DIN rail / panel
Temperature drift	\leq 0.005 % / K	Protection class	IP20
Rise time (10-90%)	≤ 50 ms	Flammability class acc. to UL 94	V-0
Dropout time (9010%)	≤ 50 ms	Dimensions	27 x 110 x 110 mm
Approvals and declarations		Approval Certification	ATEX, IECEx, ,FM _{iss} , TR CU, INMETRO
Ex approval acc. to conformity certificate	TÜV 05 ATEX 2910	•	
Device designation	⟨		
Max. values:	Terminal connection: 13 / 68		
Max. output voltage U₀	≤ 21.3 V		
Max. output current I _o	≤ 86 mA		
Max. output power P _o	≤ 675 mW		
Internal resistance R _i	365 Ω		
Rated voltage	250 V		
Characteristic	Trapezoidal		
External inductance/capacitance L _o /C _o			
Ex ia IIC	IIB		
L _o [mH] 0.47	10		
C ₀ [μF] 0.093	0.45		
Ex approval acc. to conformity certificate	TÜV 06 ATEX 2967 X		
Application area	II 3 G		
Protection type	Ex nA [ic Gc] IIC T4 Gc		

Terminal connection: 1...3/6...8

≤ 21.3 V

 \leq 86 mA

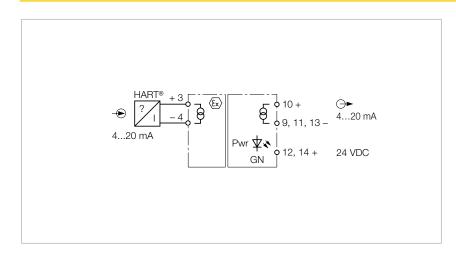
 \leq 675 mW

trapezoidal

Characteristic

Max. output current $I_{\rm o}$

Max. output power P_o



Features

- ATEX, IECEx, TR CU, NEPSI
- Installation in zone 2
- Power supply of transmitters in the Ex area
- HART® transmissible
- Galvanic isolation of input circuits, output circuits and supply voltage

The 1-channel HART® isolating transducer IME-AIA-11EX-Hi/24VDC is used to energize intrinsically safe 2-wire HART® transducers (III) in the Ex area and to transmit the measured signal to the non-Ex area.

Besides the analog signals, digital HART® communication signals can also be transmitted bidirectionally.

The device features one input and one output circuit for 4...20 mA.

A green LED indicates operational readiness.

Input and output circuit are safely galvanically isolated. The input signal is transmitted 1:1 and is presented to the relevant output in the non-Ex area. As a result of the 1:1 transmission behaviour, wire-break and short circuit are output as currents of 0 mA or > 22.5 mA in the measuring transducer circuit.



Туре	IME-AiA-11Ex-Hi/24VDC 7541193		
ldent no.			
Power supply			
Nominal voltage	24 VDC 2030 VDC ≤ 1 W		
Operating voltage range			
Power consumption			
Inputs			
Input circuits	isolating transducer		
Supply voltage	\geq 13 V / 20 mA		
Current	35 mA		
Current input	420 mA		
Outputs			
Load resistance, current output	\leq 0.5 k Ω		
Output current	420 mA		
Response characteristic			
Measuring accuracy	\leq 0.1 % of full scale		
Reference temperature	23 °C		
Rise time (10-90%)	≤ 10 ms		

Approva	ls and	declarations
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Dropout time (90...10%)

Ex approval acc. to conformity certificate

TÜV 08 ATEX 554801

Device designation

iaD]

 \leq 10 ms

Max. values: Terminal connection: 3+4

≤ 23 V Max. output voltage U₀ Max. output current I \leq 64.5 mA Max. output power Po ≤ 799 mW Rated voltage 250 V Characteristic Trapezoidal Internal inductance/capacitance L_i/C_i $L_i = 76.5 \mu H, C_i = 22 nF$

External inductance/capacitance L_o/C_o

Ex ia IIC			IIB				
L₀ [mH]	0.804	0.424	0.024	4.8	0.9	0.12	_
C ₀ [nF]	46	62	121	358	418	718	

TÜV 08 ATEX 554909 X Ex approval acc. to conformity certificate

Application area II3G

Protection type Ex nA [nL] IIB/IIC T4 Terminal connection: 3+4 Max. values:

≤ 23 V Max.output voltage U₀ Max. output current Io \leq 64.5 mA ≤ 799 mW Max. output power Po Characteristic trapezoidal

Internal inductance/capacitance L_i/C_i $C_i = 22 \text{ nF}, L_i = 76.5 \mu\text{H}$

External inductance/capacitance L_o/C_o

Ex nL	IIC	IIB
L _o [mH]	0.12	19.9
C _o [nF]	188	786

SIL 2 acc. to EXIDA FMEDA Declaration

Indication

Operational readiness

green

Environmental Conditions

Ambient temperature -25...+70 °C -40...+80 °C Storage temperature Test voltage 2.5 kV

MTTF 474 years acc. to SN 29500 (Ed. 99)

40 °C

Mechanical data

Electrical connection Spring terminal made of Beryllium-

Bronze

Terminal cross-section 1.5 mm² Housing material Polycarbonate/ABS

Mounting instruction for DIN rail **Protection class** IP20 Flammability class acc. to UL 94 V-0

18 x 112 x 110 mm Dimensions

Approval | Certification

ATEX, IECEx, TR CU, NEPSI