

Ammeter / Voltmeter

Series 8402, 8403, 8405, 8404

STAHL

www.stahl.de



10073E00

- > Fast comparison of measured with set values
- > Versions available
 - Ammeter Series 8405, 8403 and 8402
 - Voltmeter Series 8404



E4

The ammeters and voltmeters from R. STAHL are explosion protected, electrical components with a moving iron instrument of the accuracy class 2.5. Integrated in enclosures with the type of protection "Ex e", they are used to measure and indicate current and voltage values.

The externally adjustable red pointer of the device allows a rapid measurement comparison. The current transformer (CT) versions (1 A and 5 A) allow a rapid and easy measurement range assignment on site due to the scale plate which can be slid in from the side.






Zone	ATEX / IECEx						Class I (NEC 505) (NEC 506)						Division	Class I		Class II		Class III	
	0	1	2	20	21	22	0	1	2	20	21	22		1	2	1	2	1	2
8402, 8403, 8404: For use in	x	x																	
8405: For use in	x	x						x						x					

WebCode 8402A

Ammeter / Voltmeter

Series 8402, 8403, 8405, 8404

Selection Table

Version	Description	Overload scale	Measuring range	Order number	Weight kg
 02414E00 Ammeter for Ex i circuits Series 8402, 72 x 72 mm	direct measuring without scale*	without	1 ... 20 mA resp. 4 ... 20 mA; for connection to certified intrinsically circuits only	8402/5	0.222
	 01841E00 Ammeter Series 8403, 72 x 72 mm	direct measuring without scale*	2 times	0 ... 20 / 40 mA	8403/2-0,02/0,04- .
			4 ... 20 / 40 mA	8403/2-0,02/0,04- .	0.220
direct measuring with scale		2 times	4 ... 20 / 40 mA	8403/2-100%/200%	0.218
			0 ... 1 / 2 A	8403/2-1/2	0.216
			0 ... 4 / 8 A	8403/2-4/8	0.222
			0 ... 10 / 20 A	8403/2-10/20	0.222
			0 ... 15 / 30 A	8403/2-15/30	0.222
			0 ... 25 / 50 A	8403/2-25/50	0.264
	for CT without scale*	2 or 5 times	sek. 1 A	8403/2-1	0.216
			sek. 5 A	8403/2-5	0.216
 01842E00 Ammeter Series 8405, 64 x 64 mm	direct measuring without scale*	2 times	0 ... 20 / 40 mA	8405/2-0,02/0,04- .	0.122
			0 ... 1 / 2 A	8405/2-1/2	0.124
			0 ... 4 / 8 A	8405/2-4/8	0.118
			0 ... 10 / 20 A	8405/2-10/20	0.120
			0 ... 15 / 30 A	8405/2-15/30	0.120
		for CT without scale*	2 or 5 times	1 A	8405/2-1
			5 A	8405/2-5	0.001
 01843E00 Voltmeter Series 8404, 72 x 72 mm	direct measuring with scale	without	0 ... 10 V	8404/2-10	0.216
			0 ... 100 V	8404/2-100	0.216
			0 ... 150 V	8404/2-150	0.216
			0 ... 250 V	8404/2-250	0.274
			0 ... 500 V	8404/2-500	0.216
 01845E00 Bezel	Bezel □ 64 mm (for ammeter Series 8405)			155940	0.500
	Bezel □ 72 mm (for ammeter Series 8403 and voltmeter Series 8404)			155942	0.025
Note	* Please order scales separately. Further measuring ranges or scales on request.				

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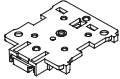
Explosion Protection				
Marking				
Version	Ammeter Ex i Series 8402	Ammeter Series 8403	Ammeter Series 8405	Voltmeter Series 8404
IECEX Europe (ATEX)	Ex ib IIC T6 ⊕ II 2 G Ex ib IIC T6	Ex e II/I, Ex em II/I ⊕ II 2 G Ex e II	Ex e II/I, Ex em II/I ⊕ II 2 G Ex e II	Ex e II/I, Ex em II/I ⊕ II 2 G Ex e II
Certificates				
Version	Ammeter Ex i Series 8402	Ammeter Series 8403	Ammeter Series 8405	Voltmeter Series 8404
IECEX Europe (ATEX) Other certificates	IECEX PTB 06.0006 PTB 98 ATEX 2101 Canada (CSA), Russia (CTB), Belarus (Gospromnadzor)	IECEX PTB 06.0017 U PTB 01 ATEX 2158 U Belarus (Gospromnadzor)	IECEX PTB 06.0017 U PTB 01 ATEX 2158 U Canada (UL, CSA), USA (UL, FM), Belarus (Gospromnadzor)	IECEX PTB 06.0017 U PTB 01 ATEX 2158 U Belarus (Gospromnadzor)
Technical Data				
Electrical data				
Version	Ammeter Ex i Series 8402	Ammeter Series 8403	Ammeter Series 8405	Voltmeter Series 8404
Isolating voltage	--	690 V	690 V	690 V
Type of current	--	AC 15 ... 100 Hz, DC calibration possible max. 0.43 W	AC 15 ... 100 Hz, DC calibration possible max. 0.43 W	AC 15 ... 100 Hz, DC calibration possible max. 2,1 VA
Power input	--	--	--	--
Max. short circuit current	max. 150 mA	--	--	--
Internal resistance	~ 2.93 Ω	--	--	--
Internal inductance	68.5 μH	--	--	--
Internal capacitance	~ 0	--	--	--
Ambient conditions				
Ambient temperature	- 20 ... + 40 °C			
Mechanical data				
Version	Ammeter Ex i Series 8402	Ammeter Series 8403	Ammeter Series 8405	Voltmeter Series 8404
Enclosure material	Polyamide - polyester	Polyamide - polyester	Polyamide - polyester	Polyamide - polyester
Connection cross-section finely-stranded	--	2.5 mm ²	2.5 mm ²	2.5 mm ²
solid	--	4.0 mm ²	4.0 mm ²	4.0 mm ²
Mounting / Installation				
Mounting	on TS35 rail			
Movement				
Version	Ammeter Ex i Series 8402	Ammeter Series 8403	Ammeter Series 8405	Voltmeter Series 8404
Movement	Moving coil instrument	Moving iron	Moving iron	Moving iron
Accuracy	Class 1.5	Class 2.5	Class 2.5	Class 2.5
Scale	0 - 100 linear, Quadrant scale, Length 63 mm	Quadrant scale Length 63 mm	Quadrant scale Length 40 mm	Quadrant scale Length 63 mm
Overload capacity		2 x I _N 25 sec 50 x I _N 1 sec Related to the measuring range end value	2 x I _N 25 sec 50 x I _N 1 sec Related to the measuring range end value	1,2 times continuous 2 times 60 sec
Bezel				
Version	Ammeter Ex i Series 8402	Ammeter Series 8403	Ammeter Series 8405	Voltmeter Series 8404
Material	Glass - polyester	Glass - polyester	Glass - polyester	Glass - polyester
Degree of protection	IP66	IP66	IP66	IP66
Gaskets	Neoprene	Neoprene	Neoprene	Neoprene
Impact strength	≥ 7 J	≥ 7 J	≥ 7 J	≥ 7 J
Sizes	□ 72 mm	□ 72 mm	□ 64 mm	□ 72 mm

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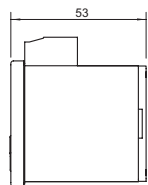
Ammeter / Voltmeter

Series 8402, 8403, 8405, 8404

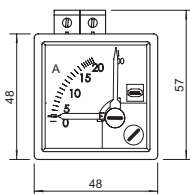
Accessories and Spare Parts

Designation	Illustration	Description	Order number	Weight kg
Push-in scales for the 8405 series and the 8403 series	 05062E00	For the 8405 series and the 8403 series Measuring range - double overload 0 A ... 1 A 5 A 10 A 15 A 20 A 25 A 30 A 40 A 50 A 60 A 75 A 100 A 150 A 200 A 300 A 500 A	Specify measuring range	
		For the 8405 series and the 8403 series Measuring range - quintuple overload 0 A ... 1 A 5 A 10 A 15 A 20 A 25 A 30 A 40 A 50 A 60 A 75 A 100 A 150 A 200 A 250 A 300 A 500 A		
Assembly accessories	 05615E00	For 8405 series To engage on TS 35 mounting rail	130954	0.022

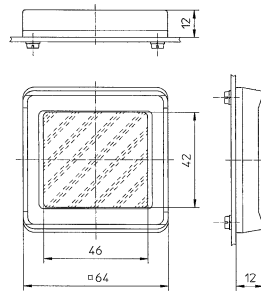
Dimensional Drawings (All Dimensions in mm) - Subject to Alterations



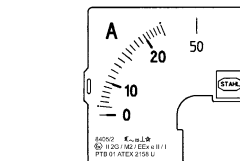
Ammeter Series 8405



04071E00



Bezel assembly code 740 for ammeter Series 8405



04087E00

04490E00

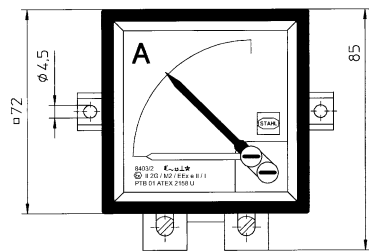
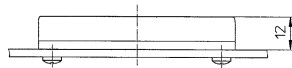
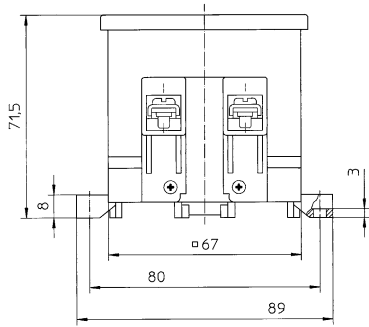
Slide-in scale for ammeter Series 8405 with CT

Ammeter / Voltmeter

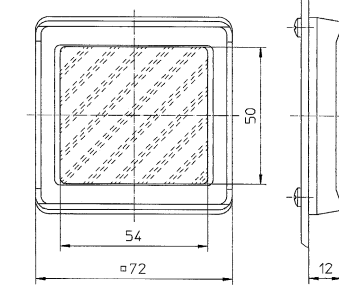
Series 8402, 8403, 8405, 8404



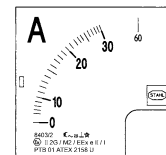
Dimensional Drawings (All Dimensions in mm) - Subject to Alterations



04576E00



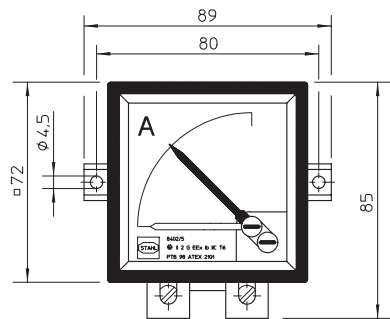
Bezel assembly code 145
for ammeter Series 8403 and
voltmeter Series 8404



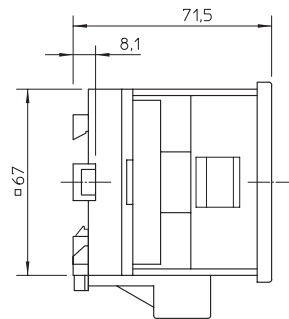
03348E00

04492E00

Slide-in scale for ammeter
Series 8403 with CT



Ammeter Series 8402



04593E00

We reserve the right to make alterations to the technical data, weights, dimensions, designs and products available without notice. The illustrations cannot be considered binding.

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