



- > Installation of various components such as
- Snap action switch
 - Potentiometer
 - Relay
 - Time relay
 - Diodes
 - Fuses
 - Resistors



01776E00

E4

Components of various functions such as diodes, resistors, fuses and relays are integrated in the Ex d enclosure 8208. The shown functions are standardised, other customer orders are available on request.


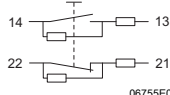
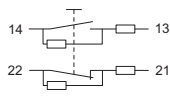
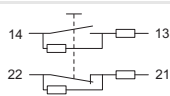
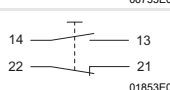
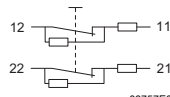
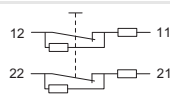
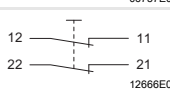
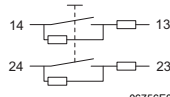
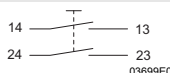
ATEX / IECEx							NEC 505 Class I						NEC 506						NEC 500					
Zone	0	1	2	20	21	22	Zone	0	1	2	20	21	22	Division	1	2	1	2	1	2	1	2	1	2
For use		x	x		x	x	For use in		x ^{*)}	x ^{*)}		x ^{*)}	x ^{*)}	For use in		x ^{*)}								

^{*)} Canada

Control Unit

Series 8208

Selection Table

Version	Description		Resistance values	Schematic	Order number	Weight
<div><p>Snap switch Series 8208</p></div> <div>11042E00</div>	with open-circuit and short-circuit detection	1 NO / 1 NC, positive opening	10 k Ω / 1 k Ω	 06755E00	8208/24-15-0001	0.100 kg
		1 NO / 1 NC	10 k Ω / 1.8 k Ω	 06755E00	8208/24-15-0011	0.117
		1 NO / 1 NC	22.1 k Ω / 681 Ω	 06755E00	8208/24-15-0021	0.100
		1 NO / 1 NC	--	 01853E00	8208/24-15-0051	0.100
		2 NC, positive opening	10 k Ω / 1 k Ω	 06757E00	8208/24-15-0002	0.100
		2 NC	10 k Ω / 1.8 k Ω	 06757E00	8208/24-15-0012	0.065
		2 NC	--	 12666E00	8208/24-15-0052	0.065
		2 NO	10 k Ω / 1 k Ω	 06756E00	8208/24-15-0003	0.100
		2 NO	--	 03699E00	8208/24-15-0053	0.100

Note

Other versions on request. For actuators see control buttons Series 8082

Explosion Protection

Global (IECEx)

Gas and mining

IECEx PTB 06.0032U
Ex d e IIC Gb
Ex d e I Mb

Europe (ATEX)

Gas and mining

PTB 01 ATEX 1066 U
II 2 G Ex d e IIC Gb
I M 2 Ex d e I Mb

Certifications and certificates

Certificates

IECEx, ATEX, Brazil (INMETRO), India (PESO), Canada (CSA), Serbia (SRPS)

Technical Data

Contact block

Electrical data

Rated operational current

AC-15: 1.5 A
DC-13: 0.5 A

Rated operational voltage

AC-15: 230 V
DC-13: 60 V

Contact resistance

typical 10 m Ω

Mechanical data

Contact material

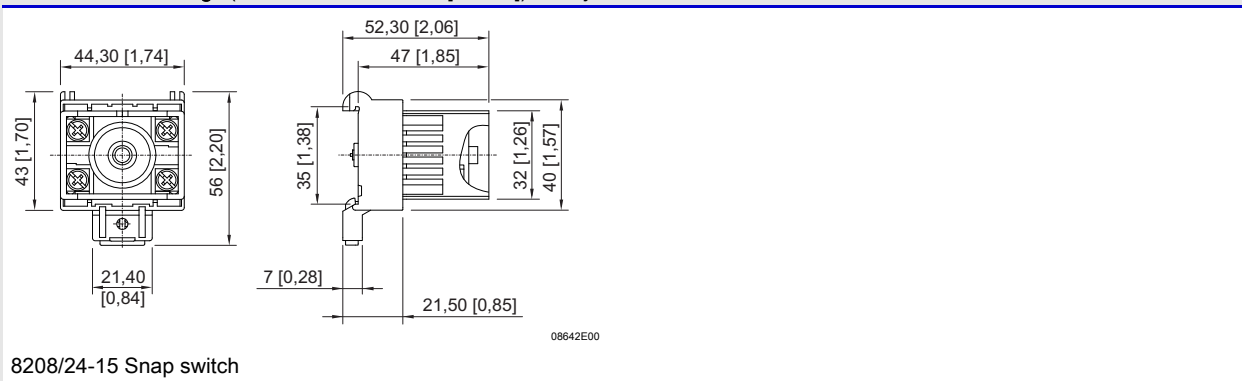
gold

Technical Data

Resistors

Ambient conditions	-60 ... +60 °C see table „Max. power“	
Ambient temperature at temperature class	Maximum internal heat distribution (Connection to 1.5 mm ² conductor cross-section and maximum 5 A)	
Max. power	Ambient temperature max. 40 °C	Ambient temperature max. 60 °C
	T _{surface} = max. 80 °C	T _{surface} = max. 80 °C
	2.0 W	1.0 W
Mechanical data		
Enclosure material	Polyamide	
Connection type	2.5 mm ² finely stranded (screw terminals)	

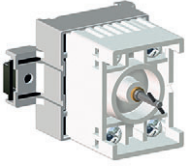
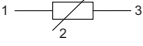
Dimensional Drawings (All Dimensions in mm [inches]) - Subject to Alterations



Control Unit

Series 8208


Selection Table

Version	Schematic	Resistance values	Order number	Weight kg
 <p>Potentiometer Series 8208</p> <p>10028E00</p>	 <p>09845E00</p>	1 k Ω	8208/24-08-01k0	0.090
		4.7 k Ω	8208/24-08-04k7	0.090
		10 k Ω	8208/24-08-010k	0.090
		Resistance values see order number supplement	8208/24-08- . . .	0.090

Order Number Supplement

Other resistance values for 8208/24-08-....	100 Ω 100 k Ω 1M Ω 220 Ω 2.2 k Ω 22 k Ω 220 k Ω 47 k Ω 470 k Ω	8208/24-08-0K10 8208/24-08-0M10 8208/24-08-01M0 8208/24-08-0K22 8208/24-08-02K2 8208/24-08-022K 8208/24-08-0M22 8208/24-08-047K 8208/24-08-0M47	
Example: Potentiometer with resistance value 100 Ω :		8208/24-08-0K10	

Selection Table

Version	Assembly	Description	Order number	Weight kg
 <p>Actuators Series 8602A</p> <p>04496E00</p>	8602A0092-1-006	with scale: 0 - 6	8602A0092-1-006	0.030
	8602A0092-1-010	with scale: 0 - 10	8602A0092-1-010	0.030
	8602A0092-1-100	with scale: 0 - 100	8602A0092-1-100	0.030

Note Other versions on request.

Explosion Protection

Global (IECEx)

Gas and mining	IECEx PTB 06.0032U Ex d e IIC Gb Ex d e I Mb
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Europe (ATEX)

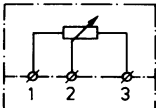
Gas and mining	PTB 01 ATEX 1066 U ⊕ II 2 G Ex d e IIC Gb ⊕ I M 2 Ex d e I Mb
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Certifications and certificates

Certificates	IECEx, ATEX, Brazil (INMETRO), India (PESO), Canada (CSA), Serbia (SRPS)
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Technical Data

Electrical data

Rated insulation voltage	max. 500 V
Rated operational power	2 W
Resistance values	100 Ω ... 1 M Ω
Characteristic curve	linear
Resistance tolerance	± 20 %
Resistor material	Carbon composition
Circuit diagram	

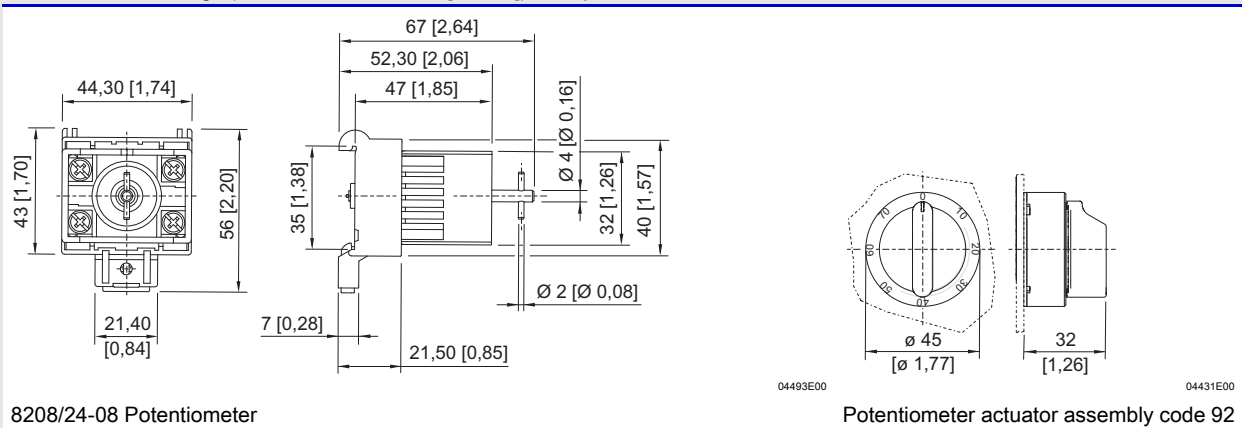
Stop strength	≥ 100 Ncm
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06065E00

Technical Data

Ambient conditions	
Ambient temperature at temperature class	-55 ... +60 °C see table „Max. power“
Max. power	Maximum internal heat distribution (Connection to 1.5 mm ² conductor cross-section and maximum 5 A)
	Ambient temperature max. 40 °C Ambient temperature max. 60 °C
	T _{surface} = max. 80 °C T _{surface} = max. 80 °C
	2.0 W 1.0 W
Mechanical data	
Enclosure material	Polyamide
Rotation range	270 °
Torque	0.7 ... 2 Ncm
Connection type	2.5 mm ² flexible
Note	
The switching capacity of the line side fuse of the potentiometer must be equal or larger than the maximum short circuit current (max. 3xI _B acc. to IEC 60127-2-1).	


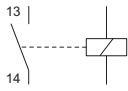
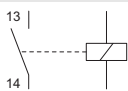
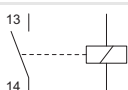
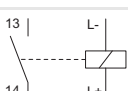
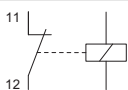
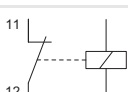
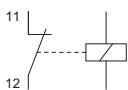
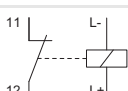
Dimensional Drawings (All Dimensions in mm [inches]) - Subject to Alterations



Control Unit

Series 8208

Selection Table

Version	Description	Rated operational voltage	Schematic	Order number	Weight kg
 <p>Relay Series 8208</p> <p>03879E00</p>	1 NO	24 V AC	 <p>15131E00</p>	8208 / 14-06-0010	0.090
		115 V AC	 <p>15131E00</p>	8208 / 14-06-0011	0.090
		230 V AC	 <p>15131E00</p>	8208 / 14-06-0012	0.090
		24 V DC	 <p>01744E00</p>	8208 / 14-06-0030	0.090
	1 NC	24 V AC	 <p>09862E00</p>	8208 / 14-06-0020	0.090
		115 V AC	 <p>09862E00</p>	8208 / 14-06-0021	0.090
		230 V AC	 <p>09862E00</p>	8208 / 14-06-0022	0.090
		24 V DC	 <p>10865E00</p>	8208 / 14-06-0040	0.090
Note	Other versions on request.				

Explosion Protection

Global (IECEx)

Gas and mining

IECEx PTB 06.0032U

Ex d e IIC Gb

Ex d e I Mb

Europe (ATEX)

Gas and mining

PTB 01 ATEX 1066 U

Ex II 2 G Ex d e IIC Gb

Ex I M 2 Ex d e I Mb

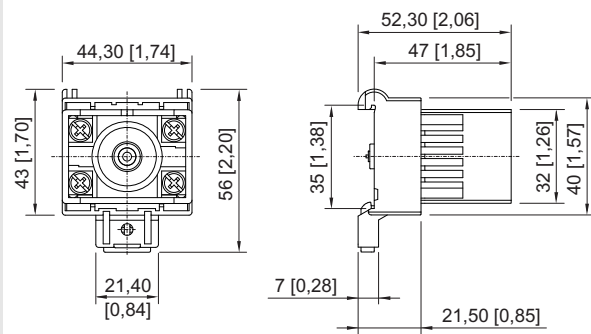
Certifications and certificates

Certificates

IECEx, ATEX, Brazil (INMETRO), India (PESO), Canada (CSA), Serbia (SRPS)

Technical Data	
Electrical data	
Rated operational current	5 A
Ambient conditions	
Ambient temperature at temperature class	-40 ... +60 °C see table „Max. power“
Max. power	Maximum internal heat distribution (Connection to 1.5 mm ² conductor cross-section and maximum 5 A)
Ambient temperature max. 40 °C	
Ambient temperature max. 60 °C	
T _{surface} = max. 80 °C	T _{surface} = max. 95 °C
T _{surface} = max. 80 °C	T _{surface} = max. 95 °C
3.0 W	4.75 W
1.5 W	2.0 W
Mechanical data	
Enclosure material	Polyamide
Connection type	2.5 mm ² flexible

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



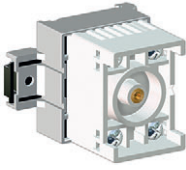
8208/14-06 Relay

01877E00

Control Unit

Series 8208

Selection Table

Version	Time domain	Rated operational voltage	Order number	Weight kg
 Time relay Series 8208 03879E00	5 min	24 V AC	8208/14-14-0715-24V AC 5min	0.001
		120 V AC	8208/14-14-0715-120V AC 5min	0.077
		24 V DC	8208/14-14-0715-24V DC 5min	0.001
	15 min	230 V AC	8208/14-14-0715-230V AC 15min	0.075

Note Other versions on request.

Explosion Protection

Global (IECEx)

Gas and mining	IECEx PTB 06.0032U Ex d e IIC Gb Ex d e I Mb
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Europe (ATEX)

Gas and mining	PTB 01 ATEX 1066 U ⊕ II 2 G Ex d e IIC Gb ⊕ I M 2 Ex d e I Mb
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Certifications and certificates

Certificates	IECEx, ATEX, Brazil (INMETRO), India (PESO), Canada (CSA), Serbia (SRPS)
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Technical Data

Electrical data

Rated operational current	5 A
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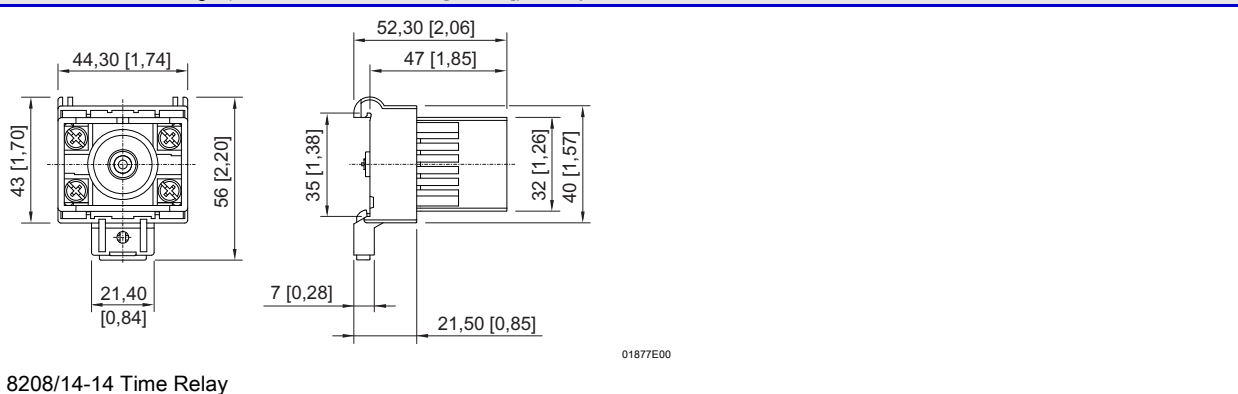
Ambient conditions


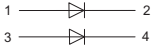
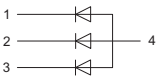
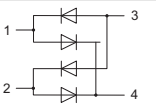
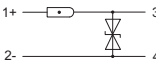
Ambient temperature at temperature class	-40 ... +60 °C see table „Max. power“			
Max. power	Maximum internal heat distribution (Connection to 1.5 mm ² conductor cross-section and maximum 5 A)			
	Ambient temperature max. 40 °C		Ambient temperature max. 60 °C	
	T _{surface} = max. 80 °C	T _{surface} = max. 95 °C	T _{surface} = max. 80 °C	T _{surface} = max. 95 °C
	3.0 W	4.75 W	1.5 W	2.0 W

Mechanical data

Enclosure material	Polyamide
Connection type	2.5 mm ² flexible

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



Selection Table				
Version	Description	Schematic	Order number	Weight kg
 Diode Series 8208 <small>03879E00</small>	2 diodes 1N4005	 <small>07637E00</small>	8208/14-02-0001	0.090
	3 diodes 1N4005	 <small>06053E00</small>	8208/14-02-0003	0.150
	4 diodes 1N4005	 <small>01667E00</small>	8208/14-02-0002	0.300
	Transient voltage suppression diode	 <small>10166E00</small>	8208/14-02-0050	0.071
	Note Other versions on request.			

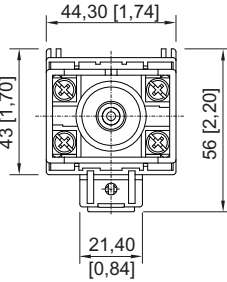
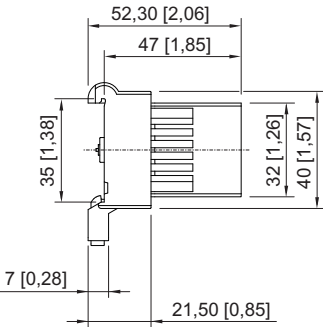
Explosion Protection

Global (IECEx)	
Gas and mining	IECEx PTB 06.0032U Ex d e IIC Gb Ex d e I Mb
Europe (ATEX)	
Gas and mining	PTB 01 ATEX 1066 U ⊕ II 2 G Ex d e IIC Gb ⊕ I M 2 Ex d e I Mb
Certifications and certificates	
Certificates	IECEx, ATEX, Brazil (INMETRO), India (PESO), Canada (CSA), Serbia (SRPS)

Technical Data

Electrical data	
Rated operational voltage	500 V
Rated operational current	1 A
Ambient conditions	
Ambient temperature at temperature class	-50 ... +60 °C see table „Max. power“
Max. power	Maximum internal heat distribution (Connection to 1.5 mm ² conductor cross-section and maximum 5 A)
	Ambient temperature max. 40 °C Ambient temperature max. 60 °C
	T _{surface} = max. 80 °C T _{surface} = max. 95 °C T _{surface} = max. 80 °C T _{surface} = max. 95 °C
	3.0 W 4.75 W 1.5 W 2.0 W
Mechanical data	
Enclosure material	Polyamide
Connection type	2.5 mm ² flexible

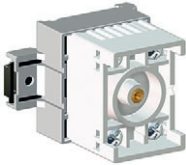
Dimensional Drawings (All Dimensions in mm [inches]) - Subject to Alterations

 44,30 [1,74] 43 [1,70] 56 [2,20] 21,40 [0,84]	 52,30 [2,06] 47 [1,85] 35 [1,38] 7 [0,28] 21,50 [0,85] 32 [1,26] 40 [1,57]	<small>01877E00</small>
8208/14-02 Diode		

Control Unit

Series 8208

Selection Table

Version	Description	Schematic	Order number	Weight kg
 03879E00 Fuse Series 8208	1 fuse	1 — 2 A — 2 07638E00	8208 / 14-12-0210	0.090
	2 fuses	1 — 2 3 — 4 a.A. 06697E00	8208 / 14-12-02.0	0.090

Note Other versions on request.

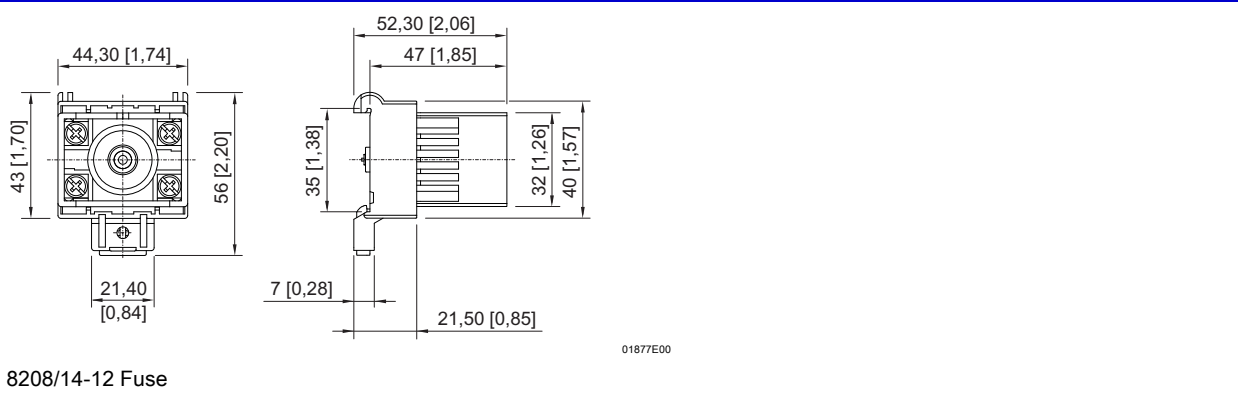
Explosion Protection

Global (IECEx)	
Gas and mining	IECEx PTB 06.0032U Ex d e IIC Gb Ex d e I Mb
Europe (ATEX)	
Gas and mining	PTB 01 ATEX 1066 U II 2 G Ex d e IIC Gb I M 2 Ex d e I Mb
Certifications and certificates	
Certificates	IECEx, ATEX, Brazil (INMETRO), India (PESO), Canada (CSA), Serbia (SRPS)

Technical Data

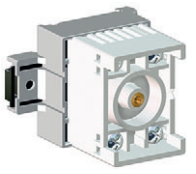

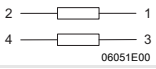

Electrical data			
Rated operational voltage		500 V AC	
Max. breaking capacity		50 A AC	
Ambient conditions			
Ambient temperature at temperature class		-40 ... +60 °C see table „Max. power“	
Max. power		Maximum internal heat distribution (Connection to 1.5 mm ² conductor cross-section and maximum 5 A)	
Ambient temperature max. 40 °C		Ambient temperature max. 60 °C	
T _{surface} = max. 80 °C	T _{surface} = max. 95 °C	T _{surface} = max. 80 °C	T _{surface} = max. 95 °C
3.0 W	4.75 W	1.5 W	2.0 W
Mechanical data			
Enclosure material		Polyamide	
Connection type		2.5 mm ²	

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



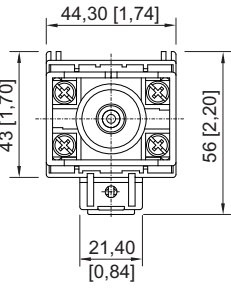
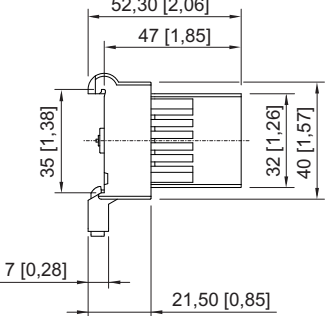
Control Unit
Series 8208



Selection Table							
Version	Resistance values	Power	Rated operational voltage	Temperature class	Schematic	Order number	Weight kg
 Resistor Series 8208 03879E00	15 Ω ... 15 k Ω	1 x 2 W	max. 75 V	T5		8208/14-03-03.. 1 resistor 2W	0.090
	0.1 Ω ... 22 MΩ	2 x 0.5 W	max. 350 V	T6		8208/14-03-03.. 2 resist. 0,5W	0.090
	0.1 Ω ... 9.1 k Ω	2 x 1 W	max. 500 V	T6		8208/14-03-03.. 2 resistors 1W	0.090
Note Other versions on request.							

Explosion Protection	
Global (IECEx)	
Gas and mining	IECEx PTB 06.0032U Ex d e IIC Gb Ex d e I Mb
Europe (ATEX)	
Gas and mining	PTB 01 ATEX 1066 U II 2 G Ex d e IIC Gb I M 2 Ex d e I Mb
Certifications and certificates	
Certificates	IECEx, ATEX, Brazil (INMETRO), India (PESO), Canada (CSA), Serbia (SRPS)

Technical Data				
Electrical data				
Rated operational voltage		max. 500 V		
Resistance tolerance		± 10 %		
Ambient conditions				
Ambient temperature at temperature class		-55 ... +60 °C see table „Max. power“		
Max. power		Maximum internal heat distribution (Connection to 1.5 mm ² conductor cross-section and maximum 5 A)		
		Ambient temperature max. 40 °C		Ambient temperature max. 60 °C
		T _{surface} = max. 80 °C	T _{surface} = max. 95 °C	T _{surface} = max. 80 °C T _{surface} = max. 95 °C
		3.0 W	4.75 W	1.5 W 2.0 W
Mechanical data				
Enclosure material		Polyamide		
Resistor material		Metal film		
Connection type		2.5 mm ² flexible		

Dimensional Drawings (All Dimensions in mm [inches]) - Subject to Alterations	
	
01877E00	
8208/14-02 Diode	

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.