



Terminal Boxes Ex e, with Window, Glass-Fiber Reinforced Polyester (GRP)

GR.CSW*

- Glass-fiber reinforced polyester (GRP) enclosure
- Window with flap for time-saving inspection of the internal components
- Installation in Zone 1, Zone 2, Zone 21 and Zone 22
- Ex eb, Ex ia and Ex tb certified
- Withstands temperatures down to -50 °C
- Customizable configuration of terminals, cable entries and cable gland types as per specification

Terminal Boxes Ex e, with Inspection Window and Protective Flap, Glass-Fiber Reinforced Polyester (GRP)



Function

The GR.CSW* series can be equipped with various types and quantities of terminals, entry devices and accessories. Pepperl+Fuchs solution engineering teams provide any custom configurations including combinations of terminals and controls. This standardized enclosure series for all Pepperl+Fuchs products consists of carbon-loaded, glass-fiber reinforced polyester with stainless steel cover screws. The enclosure series provides an anti-static, UV stabilized and corrosion resistant solution. Many features provide for easy installation and handling.

The integrated window allows easy inspection of the internal components without opening the device and without a hot work permit, thus providing significant time and cost savings. A spring-loaded flap protects the window during operation of the plant.

The enclosures are certified for operation in low temperatures of down to -50 °C and can therefore be used in many applications as a replacement for stainless steel.

Technical Data

Electrical specifications

Operating voltage	1000 V AC max.
Operating current	application-specific

Mechanical specifications

Enclosure cover	fully detachable , window with flap , optional hinges
Cover fixing	see data table
Screws	stainless steel combination Phillips and slotted screw
Cover seal	foamed silicone
Degree of protection	IP66
Cable entry	see data table
Number of cable entries	see data table
Terminal assembly	
Number of rails	see data table
Terminal type	Standard see PDF datasheet, other terminal types optional
Number of terminals per rail	see data table
Material	
Enclosure	carbon loaded, antistatic glass-fiber reinforced polyester (GRP)
Finish	inherent color black
Grounding plate	2 mm or 5 mm brass optional
Mass	see data table valid for empty enclosure, will increase according to integrated components
Dimensions	see data table
Mounting	see data table

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

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Technical Data

Grounding	none as standard optional M6 or M8 internal/external brass nickel-plated grounding bolt optional M6 or M8 internal/external stainless steel grounding bolt
Ambient conditions	
Ambient temperature	-40 ... 55 °C (-40 ... 131 °F)
Data for application in connection with hazardous areas	
EU-type examination certificate	CML 16 ATEX 3009X
Marking	⊕ II 2 GD Ex eb IIC T* Gb Ex ib IIC T* Gb Ex tb IIIC T** °C Db T6/T80 °C @ Ta +40 °C T5/T95 °C @ Ta +50 °C T4/T130 °C @ Ta +55 °C
International approvals	
IECEx approval	IECEx CML 16.0008X
UKCA approval	CML 22 UKEX 2550X
Conformity	
Degree of protection	EN 60529
CE marking	0102
General information	
Ordering information	This device will be delivered completely configured and assembled ready for use. For configuration details please contact Customer Service.
Supplementary information	EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com .
Accessories	
Optional accessories	M6 or M8 internal/external brass nickel-plated grounding bolts M6 or M8 internal/external stainless steel grounding bolts grounding plate, brass mounting plate, stainless steel hinges, polyamide mounting block for DIN mounting rail, polyamide engraved traffolyte tag label engraved AISI 316L stainless steel tag label color in-fill stainless steel tag label

Type Code

1	2	3	4	5	6	7	8						
GR	.	***	.	**	.	**	.	**	.	*	-	*	****
GR	.	CSW	.	13	.	18	.	09	.	B	-	Y	0001

Example: GR.CSW.13.18.09.B-Y0001

Terminal box, material glass fiber reinforced polyester, with window and flap, 13x18x9 cm, landscape orientation with face B at bottom, engineered solution

1	Enclosure type
GR	glass fiber reinforced polyester (GRP)
2	Type of solution
CSW	terminal box (Ex e) with window and flap
3	Height [cm]
n	see dimensions data table
4	Width [cm]
n	see dimensions data table
5	Depth [cm]
n	see dimensions data table
6	Cable entry face orientation
B	landscape, face [B] at bottom
D	portrait, face [D] at bottom
7	Variant
S	standard product

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Type Code

7	Variant
C	configured product
CA	configured and adapted product
Y	engineered product
U	empty enclosure

8	Variant number
xxxx	consecutive item number

Dimensions and Enclosure Details

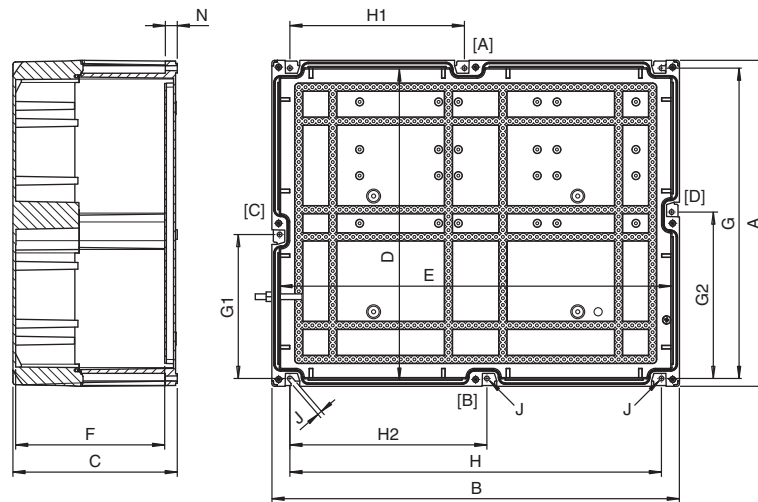


Image and drawing are generic for this device type and may deviate from the specific variant

Type	External dimensions [mm]			Internal dimensions [mm]			Mounting [mm]							Mass [kg]	Cover screws				
	A	B	C	D	E	F	G	G1	G2	H	H1	H2	J		N	S qty.	Mx	qty.	T [Nm]
GR*.10.10.07	99	99	65.0	76	76	48.0	66	-	-	84	-	-	5	13	2	0.4	M4	4	1.5
GR*.13.13.09	129	129	85.0	106	106	68.0	96	-	-	114	-	-	5	13	2	0.6	M4	4	1.5
GR*.13.18.09	129	179	91.5	106	156	69.0	106	-	-	126	-	-	7	18	2	1.0	M6	4	3.5
GR*.18.18.10	179	179	104.0	156	156	81.5	126	-	-	156	-	-	7	18	2	1.4	M6	4	3.5
GR*.18.24.10	179	239	104.0	156	216	81.5	156	-	-	186	-	-	7	18	2	1.7	M6	4	3.5
GR*.18.36.10	179	359	104.0	156	336	71.5	156	-	-	306	-	-	7	18	4	2.4	M6	4	3.5
GR*.18.36.17	179	359	166.5	156	336	144.0	156	-	-	306	-	-	7	18	4	3.1	M6	4	3.5
GR*.36.36.10	359	359	104.0	336	336	81.5	306	-	-	336	-	-	7	18	4	3.7	M6	4	3.5
GR*.36.36.17	359	359	166.5	336	336	144.0	306	-	-	336	-	-	7	18	4	4.6	M6	4	3.5
GR*.36.36.24	359	359	241.5	336	336	219.0	306	-	-	336	-	-	7	18	4	6.6	M6	4	3.5
GR*.36.72.17	359	719	166.5	336	696	144.0	336	-	-	666	316.5	349.5	7	18	6	8.3	M6	6	3.5
GR*.36.72.24	359	719	241.5	336	696	219.0	336	-	-	666	316.5	349.5	7	18	6	11.3	M6	6	3.5
GR*.48.60.24	479	599	241.5	456	576	219.0	456	211.5	244.5	546	256.5	289.5	7	18	8	12.2	M6	8	3.5

S = mounting screws quantity, T = cover screws torque [Nm]

Mass is valid for empty enclosure, it will increase according to enclosure accessories, integrated components and entry devices

Values might differ slightly due to manufacturing tolerances

Terminal Configurations with Standard Terminals

Type	DIN-Rails vertical				DIN-Rails horizontal				Terminal type	Terminal capacity [mm ²]
	Number of rails	Usable length per rail [mm]	Terminals per rail	Terminals total	Number of rails	Usable length per rail [mm]	Terminals per rail	Terminals total		
GR*.10.10.07	-	-	-	-	1	47.5	9	9	AKZ	2.5
GR*.13.13.09	-	-	-	-	1	67.5	13	13	AKZ	2.5
GR*.13.18.09	1	66.5	13	13	1	101.5	19	19	WDU	2.5
GR*.18.18.10	1	101.5	19	19	1	101.5	19	19	WDU	2.5
GR*.18.24.10	1	101.5	19	19	1	161.5	31	31	WDU	2.5
GR*.18.36.10	3	101.5	19	57	1	281.5	55	55	WDU	2.5
GR*.18.36.17	3	101.5	19	57	1	281.5	55	55	WDU	2.5
GR*.36.36.10	3	281.5	55	165	3	281.5	55	165	WDU	2.5
GR*.36.36.17	3	281.5	55	165	3	281.5	55	165	WDU	2.5
GR*.36.36.24	3	281.5	55	165	3	281.5	55	165	WDU	2.5
GR*.36.72.17	6	271.5	53	318	3	641.5	125	375	WDU	2.5
GR*.36.72.24	6	271.5	53	318	3	641.5	125	375	WDU	2.5
GR*.48.60.24	5	381.5	74	370	4	501.5	98	392	WDU	2.5

For other terminal types and terminal capacities please contact Pepperl+Fuchs

Cable Entries max. Quantity per Size

Type	Faces A and B					Faces C and D				
	M16	M20	M25	M32	M40	M16	M20	M25	M32	M40
GR*.10.10.07	4	2	1	1	-	2	1	1	-	-
GR*.13.13.09	9	5	3	2	1	6	4	2	2	1
GR*.13.18.09	11	6	4	2	2	8	4	2	1	1
GR*.18.18.10	15	8	6	3	2	12	6	5	2	2
GR*.18.24.10	20	11	8	4	3	15	8	6	3	2
GR*.18.36.10	30	18	11	6	4	14	8	5	3	2
GR*.18.36.17	60	33	22	15	8	27	15	10	6	4
GR*.36.36.10	35	18	13	7	5	30	18	11	6	4
GR*.36.36.17	69	38	26	18	10	60	33	22	15	8
GR*.36.36.24	69	38	26	18	10	60	33	22	15	8
GR*.36.72.17	129	73	48	35	19	69	38	26	18	10
GR*.36.72.24	129	73	48	35	19	69	38	26	18	10
GR*.48.60.24	102	58	38	26	14	84	45	30	20	12

Cable gland standard type: polyamide Ex e cable glands

For other types of cable glands and combinations of different gland sizes please contact Pepperl+Fuchs