



## Terminal and Junction Boxes Ex e / Ex i, Glass-Fiber Reinforced Polyester (GRP)

### GR.T\*

- Glass-fiber reinforced polyester (GRP) enclosure
- Installation in Zone 1, Zone 2, Zone 21 and Zone 22
- Installation in Class I, II, Division 2
- Ex eb, Ex ia and Ex tb certified
- Modern design with high impact resistance
- Easy installation due to easily accessible mounting points
- Prefabricated mounting grid for flexible arrangement of internal components
- Durable IP degree of protection due to foamed gasket and protected sealing area
- Easy cover opening without damage due to multiple pry points
- Withstands temperatures down to -60 °C
- Customizable configuration of terminals, cable entries and cable gland types as per specification
- Sturdy hinges as an option

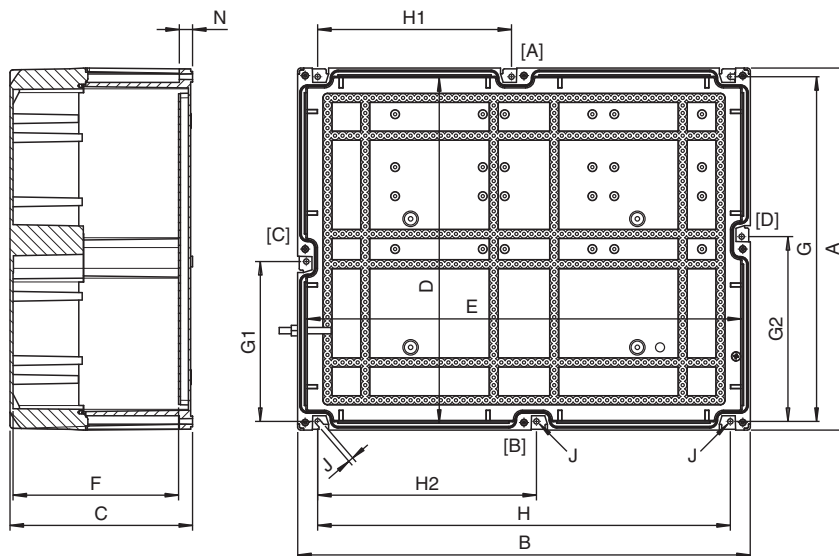
## Terminal and Junction Boxes Ex e / Ex i, Glass-Fiber Reinforced Polyester (GRP)



### Function

The GR.\* 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. It is certified for operation in low temperatures of down to -60 °C and thus can be applied in many applications as a replacement for stainless steel.

### Dimensions



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Dimension values see data table.  
Image and drawing are generic for this device type and may deviate from the specific variant.

### Dimensions and Enclosure Details

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	76	76	48	66	-	-	84	-	-	5	13	2	0.35	M4	4	1.5
GR*.13.13.09	129	129	85	106	106	68	96	-	-	114	-	-	5	13	2	0.61	M4	4	1.5
GR*.13.18.09	129	179	91.5	106	156	69	106	-	-	126	-	-	7	18	2	1	M6	4	3.5
GR*.18.18.10	179	179	104	156	156	81.5	126	-	-	156	-	-	7	18	2	1.35	M6	4	3.5
GR*.18.24.10	179	239	104	156	216	81.5	156	-	-	186	-	-	7	18	2	1.65	M6	4	3.5
GR*.18.36.10	179	359	104	156	336	81.5	156	-	-	306	-	-	7	18	4	2.3	M6	4	3.5
GR*.18.36.17	179	359	166.5	156	336	144	156	-	-	306	-	-	7	18	4	3.1	M6	4	3.5
GR*.36.36.10	359	359	104	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	306	-	-	336	-	-	7	18	4	4.6	M6	4	3.5
GR*.36.36.24	359	359	241.5	336	336	219	306	-	-	336	-	-	7	18	4	6.6	M6	4	3.5
GR*.36.72.17	359	719	166.5	336	696	144	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	33	-	-	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	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 <sup>2</sup> ]
	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
GR*.13.13.09	-	-	-	-	1	67.5	13	13	AKZ	2
GR*.13.18.09	1	66.5	13	13	1	101.5	19	19	WDU	2
GR*.18.18.10	1	101.5	19	19	1	101.5	19	19	WDU	2
GR*.18.24.10	1	101.5	19	19	1	161.5	31	31	WDU	2
GR*.18.36.10	3	101.5	19	57	1	281.5	55	55	WDU	2
GR*.18.36.17	3	101.5	19	57	1	281.5	55	55	WDU	2
GR*.36.36.10	3	281.5	55	165	3	281.5	55	165	WDU	2
GR*.36.36.17	3	281.5	55	165	3	281.5	55	165	WDU	2
GR*.36.36.24	3	281.5	55	165	3	281.5	55	165	WDU	2
GR*.36.72.17	6	271.5	53	318	3	641.5	125	375	WDU	2
GR*.36.72.24	6	271.5	53	318	3	641.5	125	375	WDU	2
GR*.48.60.24	5	381.5	74	370	4	501.5	98	392	WDU	2

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

## Technical Data

### Electrical specifications

## Technical Data

Operating voltage	690 V AC / DC max. , depending on size for ATEX / IECEx 600 V AC / DC max. for North American approvals
Operating current	350 A max. , depending on size and certification
<b>Mechanical specifications</b>	
Enclosure cover	fully detachable , optional hinges
Cover fixing	stainless steel combination Phillips and slotted screw , see data table
Cover seal	foamed silicone
Degree of protection	IP66 , Type 4X
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 brass optional
Mass	see data table valid for empty enclosure, will increase according to integrated components
Shock resistance	IK09 (from GR.18.18.10 and larger, IK09, IK10 apply)
Dimensions	see data table
Mounting	see data table
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
<b>Ambient conditions</b>	
Ambient temperature	-60 ... 65 °C (-76 ... 149 °F)
<b>Data for application in connection with hazardous areas</b>	
EU-type examination certificate	CML 17 ATEX 3255X
Marking	Ⓢ II 2 GD Ex eb IIC T* Gb Ex ia IIC T* Gb Ex tb IIIC T** °C Db T6/T80 °C @ Ta +40 °C T5/T95 °C @ Ta +55 °C T4/T130 °C @ Ta +65 °C
<b>International approvals</b>	
IECEX approval	IECEX CML 17.0144X
UKCA approval	CML 21 UKEX 3896X
ETL approval	
ETL certificate	Intertek 5003368 , Intertek 5022079
Approved for	Class I, Division 2, Groups A, B, C, D Class II, Division 2, Groups F, G Class III
cETLus	according to UL 1773 , UL 121201 , CSA C22.2, No. 40, 213
Ambient temperature	-40 ... 65 °C (-40 ... 149 °F)
IA approval	MASC S/18-1639X
CCC approval	2020322303002568
<b>Conformity</b>	
Degree of protection	EN60529 and UL 50 / UL 50E
CE marking	0102
<b>General information</b>	
Ordering information	This terminal box 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 <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .
<b>Accessories</b>	

## Technical Data

### 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	TBI	13	18	09	B	S	0001

Example: GR.TBI.13.18.09.B-S0001

Terminal box, material glass fiber reinforced polyester, for intrinsically safe circuits, size 13x18x9 cm, landscape orientation with face B at bottom, standard device

1	Enclosure type
GR	glass fiber reinforced polyester (GRP)

2	Type of solution
TJE	junction box (Ex e)
TJI	junction box (Ex i)
TBE	terminal box (Ex e)
TBI	terminal box (Ex i)
TBM	terminal box, various types of explosion protection, e.g. (Ex e, Ex i) or (Ex e, Ex op pr)
TB1	terminal box with one terminal

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	face [B] at bottom (landscape with rectangular enclosure)
D	face [D] at bottom (portrait with rectangular enclosure)

7	Variant
S	standard product
C	configured product
CA	configured and adapted product
Y	engineered product

8	Variant number
*	consecutive item number