Terminal and junction boxes

for hazardous areas

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Coming soon

Polyamide junction boxes at prices up to 20% lower

HTB1P series for zones 1/2 and 21/22

Terminal and junction boxes configuration for hazardous areas



HTB1P terminal and junction boxes, made of glass-reinforced polyester (GRP), are designed for applications in hazardous areas: 1, 2 (gases) and 21, 22 (dust). They feature high resistance to corrosion and UV radiation, ensuring durability even in harsh industrial environments. The boxes are used in industries such as chemical, petrochemical, and energy sectors.

Design features

- **The robust, thick enclosure walls (4.5–9 mm)** ensure high structural rigidity and allow the use of threads with a large number of turns, further enhancing the device's reliability.
- **Silicone cover gasket**, which effectively protects the interior of the case from the ingress of moisture and dirt.
- **Cover screws**, made of AISI 316L stainless steel, guarantee durability and resistance to harmful external factors.
- **Internal mounting screws**, made of corrosion-resistant materials, significantly increase the durability and service life of the entire structure.

Accessories

- **PE/PA rail** with terminals mounted along any wall of the enclosure.
- **Glands made of polyamide or steel** (brass / nickel-plated brass / stainless steel; armoured cables / unarmoured cables).
- **Grounding plate** for metal glands (stainless steel / brass; 2mm thick / 3mm thick)
- **Brass earth tags** for metal cable glands (a cost-effective solution replacing the grounding plate, used when mounting up to 2 cable glands on one wall).
- **Mounting plate** allowing up to 3 DIN rails to be mounted in different orientations (vertical / horizontal) and at different heights.
- **External grounding** connection through a grounding screw or a cable gland.

Wide selection of enclosures - with up to 11 size options



Basic parameters

Technical data	
Marking according to 2014/34/EU	Ex II 2 G Ex eb IIC/IIB T6....T4 Gb Ex II 2 D Ex tb IIIC T85°C...T135°C Db
ATEX certificate	FIDI 22 ATEX 0065X
IECE certification	IECEx FIDI 22.0008X
Marking according to IECEx	Ex eb IIC/IIB T6...T4 Gb Ex tb IIIC T85°C...T135°C Db
Permissible ambient temperature	-20°C to +40°C -50°C to +95°C optional
Rated voltage	up to 690 V AC
Rated current	up to 350 A
Degree of protection according to EN 60529	IP66
Housing material	glass fiber reinforced polyester (GRP)
Housing color	black

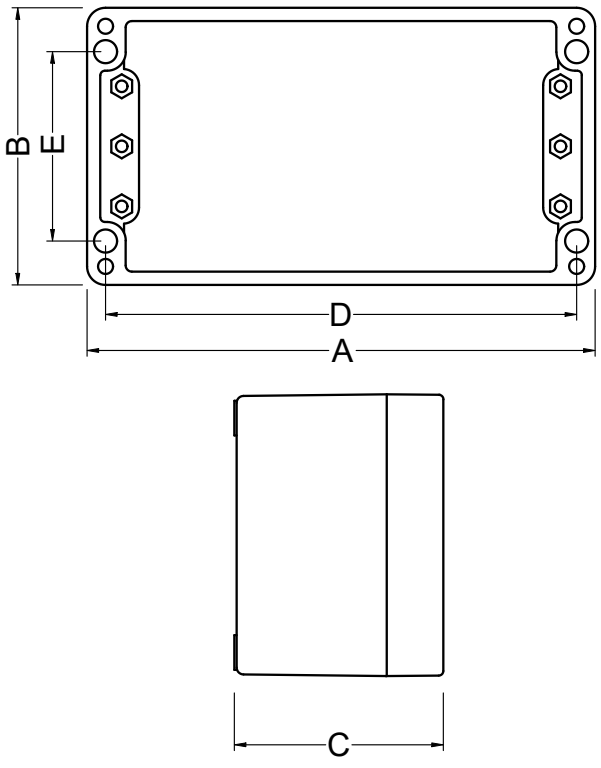


Types of protection

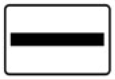
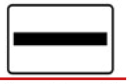
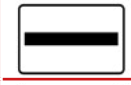
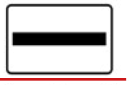
- Execution Ex e
- Version for intrinsically safe circuits Ex i
- Ex e / Ex i execution

Dimensions of enclosure

	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]
HTB1P 080806	80	75	55	69	45
HTB1P 081106	110	75	55	99	45
HTB1P 121209	120	120	90	106	82
HTB1P 122209	220	120	90	204	82
HTB1P 161609	160	160	90	140	110
HTB1P 162609	260	160	90	240	110
HTB1P 163609	360	160	90	340	110
HTB1P 252612	255	250	120	235	200
HTB1P 252616	255	250	160	235	300
HTB1P 254012	400	250	120	380	200
HTB1P 254016	400	250	160	380	200
HTB1P 256012	600	250	120	580	200
HTB1P 414012	400	405	120	380	355

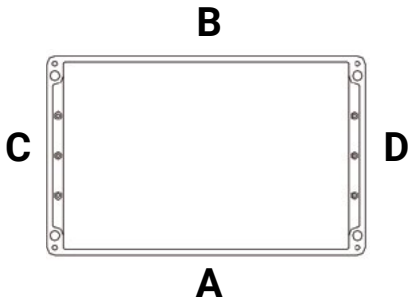


Selection of DIN rails and terminals

Product type	Rail layout (scheme)	Rail length [mm]	Rails qty	Maximum number of terminals												
				Cross section [mm²]												
				2,5	4	6	10	16	35	50	70	95	120	150	185	240
HTB1P 080806 [80x75x55mm]		68	1	6	5	-	-	-	-	-	-	-	-	-	-	-
HTB1P 081106 [110x75x55mm]		98	1	12	10	-	-	-	-	-	-	-	-	-	-	-
HTB1P 121209 [120x120x90mm]		110	1	13	11	8	-	-	-	-	-	-	-	-	-	-
HTB1P 122209 [220x120x90mm]		205	1	32	27	20	-	-	-	-	-	-	-	-	-	-
		110	1	18	15	11	8	7	-	-	-	-	-	-	-	-
HTB1P 161609 [160x160x90mm]		144	1	21	17	12	10	8	-	-	-	-	-	-	-	-
HTB1P 162609 [260x160x90mm]		245	1	40	33	25	20	15	-	-	-	-	-	-	-	-
		145	1	25	21	16	13	10	7	-	-	-	-	-	-	-
HTB1P 163609 [360x160x90mm]		345	1	59	49	37	29	25	-	-	-	-	-	-	-	-
		145	2	2 x 25	2 x 21	2 x 16	13	10	7	-	-	-	-	-	-	-
HTB1P 252612 [255x250x120mm]		240	2	2 x 39	2 x 32	2 x 24	19	16	12	-	-	-	-	-	-	-
HTB1P 252616 [255x250x160mm]		240	2	2 x 39	2 x 32	2 x 24	19	16	12	-	-	-	-	-	-	-
HTB1P 254012 [400x250x120mm]		385	2	2 x 66	2 x 56	2 x 41	33	28	21	-	-	-	-	-	-	-
		235	2	2 x 42	2 x 35	2 x 26	21	17	13	10	10	-	-	-	-	-
HTB1P 254016 [400x250x160mm]		385	2	2 x 66	2 x 56	2 x 41	33	28	21	-	-	-	-	-	-	-
		235	2	2 x 42	2 x 35	2 x 26	21	17	13	10	10	-	-	-	-	-
HTB1P 256012 [600x250x120mm]		560	2	2 x 106	2 x 88	2 x 66	53	44	33	-	-	-	-	-	-	-
		208	2	2 x 42	2 x 35	2 x 26	21	17	13	9	9	7	5	5	5	5
HTB1P 414012 [400x405x120mm]		385	3	3 x 66	3 x 56	3 x 41	3 x 33	28	21	17	16	13	-	-	-	-

Selection of glands

	Walls	Size of cable glands							
		M12	M16	M20	M25	M32	M40	M50	M63
HTB1P 080806 [80x75x55mm]	A/B	6	2	2	1	-	-	-	-
	C/D	2	1	1	1	-	-	-	-
HTB1P 081106 [110x75x55mm]	A/B	8	3	3	2	2	-	-	-
	C/D	1	1	1	1	-	-	-	-
HTB1P 121209 [120x120x90mm]	A/B	15	12	6	3	2	1	1	-
	C/D	9	6	4	2	1	1	1	-
HTB1P 122209 [220x120x90mm]	A/B	30	24	12	9	4	3	3	-
	C/D	9	6	4	2	1	1	1	-
HTB1P 161609 [160x160x90mm]	A/B	24	15	8	6	2	2	2	-
	C/D	15	12	6	3	2	1	1	-
HTB1P 162609 [260x160x90mm]	A/B	48	27	14	12	5	4	3	-
	C/D	15	12	6	3	2	1	1	-
HTB1P 163609 [360x160x90mm]	A/B	68	39	22	18	7	5	4	-
	C/D	15	12	6	3	2	1	1	-
HTB1P 252612 [255x250x120mm]	A/B	55	36	21	12	10	4	3	2
	C/D	50	32	18	10	8	3	2	2
HTB1P 252616 [255x250x160mm]	A/B	55	36	21	12	10	4	3	2
	C/D	50	32	18	10	8	3	2	2
HTB1P 254012 [400x250x120mm]	A/B	95	60	36	20	16	6	5	4
	C/D	50	32	18	10	8	3	2	2
HTB1P 254016 [400x250x160mm]	A/B	95	60	36	20	16	6	5	4
	C/D	50	32	18	10	8	3	2	2
HTB1P 256012 [600x250x120mm]	A/B	150	96	57	32	26	10	8	6
	C/D	50	32	18	10	8	3	2	2
HTB1P 414012 [400x405x120mm]	A/B	95	60	36	20	16	6	5	4
	C/D	90	56	33	18	15	6	5	4





Cable glands

Material

- polyamide
- stainless steel
- nickel-plated brass
- brass

Type

- for armored cables
- for unarmoured cables

Grounding

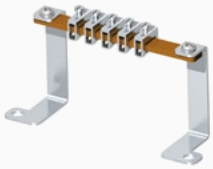
- internal grounding plate
- earthing tag

Clamping range	
Gland size	**Range** [mm]
M12	5 -7
M16	7 - 10
M20	5,5 - 13
M25	8 - 17,5
M32	14 - 17,5
M40	19 - 28
M50	24 - 35
M63	29 - 48

Standard clamping ranges; other cable gland models available on request

Accessories

PE/PA rail for grounding / potential equalization



- Helps reduce price
- Eliminates the need for more expensive terminals mounted on a DIN rail
- Often allows the use of a smaller enclosure
- Available in grounded and insulated versions

Grounding plate made of brass for use with metal cable glands



- Provides an effective grounding connection for metal glands
- Brass construction provides very good electrical conductivity
- Available in 2 mm or 3 mm variants

Stainless steel grounding plate for metal cable glands



- Cost-effective alternative to the brass plate
- Provides an effective grounding connection for metal glands
- The brass construction provides good electrical conductivity
- Available in 2 mm or 3 mm variant

Nickel-plated brass grounding tag



- Economical alternative to grounding plate
- Used when there are up to two cable glands on the same wall of the box
- Provides an effective grounding connection for metal glands
- The brass construction provides good electrical conductivity

Mounting plate



- Allows increasing the number of DIN rails to 2 or 3 (depending on the box size)
- Allows changing the orientation of the DIN rail from horizontal to vertical
- Provides flexibility in arranging components inside the box

External grounding connection



- Dedicated earthing bolt (M6 / M10) / polyamide gland / steel gland
- Degree of protection IP66
- Ambient temperature: -55°C to +160°C (earthing bolt) / -55°C to +70°C (cable gland)

Drain / breather valve



- Effectively drains moisture from the housing and minimizes moisture accumulation
- Mounting at the lowest point of the housing with O-ring sealing, providing a high degree of IP66 protection
- Impact resistance up to 20 Nm and an operating temperature range of -50°C to +230°C

Example 1

Optimized design

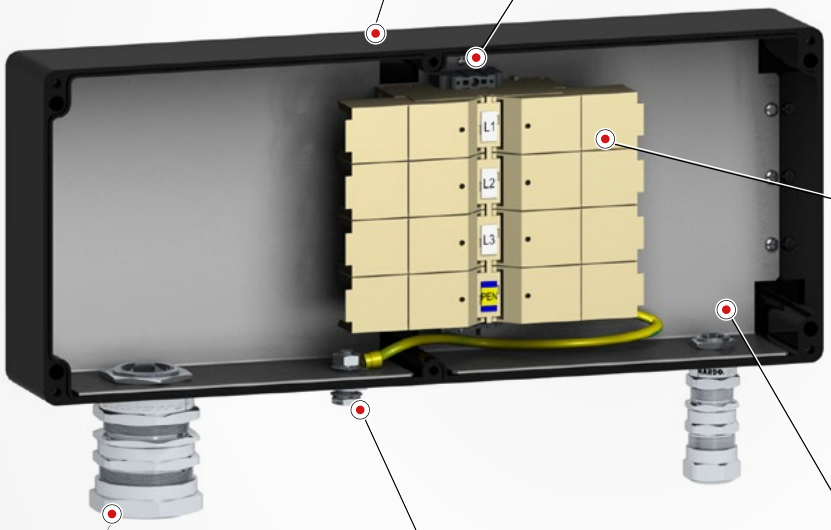
- The vertical DIN rail made it possible to reduce the number of terminals by half and to use a smaller enclosure.
- The elongated enclosure provides the space needed to bend thick cables (more room on the left side for cables with larger diameters).
- The integrated mounting plate with a grounding plate ensures potential equalization and reduces the number of terminals.

Certified GRP housing

- Socover, thick walls (4.5 - 9 mm)
- High resistance to chemicals
- Silicone gasket (cover)
- 316L stainless steel mounting screws (cover)
- Operating temperature: -50...+95°C

Vertical DIN rail

- Galvanized steel / stainless steel / copper
- Low (35x7 mm) / high (35x15 mm) / mini (15x5.5 mm)
- Horizontal / vertical orientation
- Up to 3 rails in the enclosure



Certified terminals

- For cables 2.5 - 120 mm²
- Markings according to customer requirements
- Operating temperature: -50...+120°C

Integrated plate

- Mounting and grounding plate as one componentt
- Stainless steel / brass

Grounding outlet

- Dedicated grounding bolt M6 / M10 (nickel-plated brass) / cable gland for large conductor cross sections (polyamide / steel)
- M6 bolt for conductors up to 30 mm² cross-section / M10 bolt for conductors up to 120 mm² cross-section / cable gland for conductors over 120 mm² cross-section

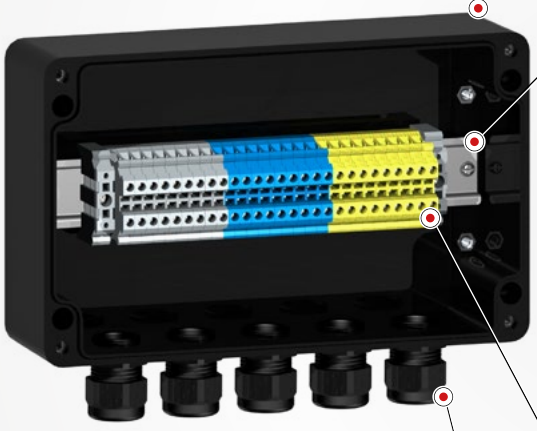
Certified metal cable glands

- Brass / nickel-plated brass / stainless steel
- Armored/unarmoured cables
- Operating temperature: -55...+160°C

Example 2

Basic variant

- Horizontal DIN rail mounted in dedicated holes with embedded stainless steel nuts.
- Terminals in three basic colors with end holders – terminal arrangement, terminal markings, and flag markings according to customer requirements.
- Polyamide cable glands mounted in threaded holes ensure high tightness.



Certified GRP housing

- Socover, thick walls (4.5 - 9 mm)
- High resistance to chemicals
- Silicone gasket (cover)
- 316L stainless steel mounting screws (cover)
- Operating temperature: -50...+95°C

DIN rail

- Steelgalvanized / stainless steel / copper
- Low (35×7 mm) / high (35×15 mm) / mini (15×5.5 mm)
- Horizontal / vertical orientation
- Up to 3 rails in the enclosure

Certified terminals

- For cables 2.5 - 120 mm²
- Markings according to customer requirements
- Operating temperature: -50...+120°C

Certified cable glands

- Black / blue
- For cables 2.5 - 120 mm²
- Operating temperature: -40...+70°C

Example 3

Basic variant with PE/PA rail

- Transferring the PE terminals from the DIN rail to a dedicated rail helps reduce costs and, in many cases, allows for a smaller box enclosure.
- Possibility of mounting the PE/PA rail along any wall.
- A special connector equalizes the potential of the grounding rail and the DIN rail (without unnecessary wires).



Certified GRP housing

- Socover, thick walls (4.5 - 9 mm)
- High resistance to chemicals
- Silicone gasket (cover)
- 316L stainless steel mounting screws (cover)
- Operating temperature: -50...+95°C

Grounding rail

- Certified BZ or AKG terminals (conductor cross-section up to 4mm^2)
- 3mm thick copper rail
- Brackets and fixing screws in stainless steel
- Grounded or insulated version

DIN rail

- Steelgalvanized / stainless steel / copper
- Low (35×7 mm) / high (35×15 mm) / mini (15×5.5 mm)
- Horizontal / vertical orientation
- Up to 3 rails in the enclosure

Certified terminals

- For cables 2.5 - 120 mm^2
- Markings according to customer requirements
- Operating temperature: -50...+120°C

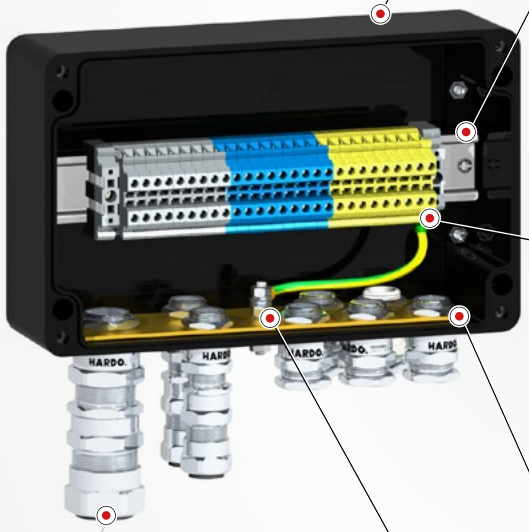
Certified cable glands

- Black / blue
- For cables 2.5 - 120 mm^2
- Operating temperature: -40...+70°C

Example 4

Variant with metal cable glands grounded with a brass plate

- The basic solution for boxes with metal cable glands.
- The grounding plate provides potential equalization of the glands.
- Terminals in three basic colors with end holders – terminal arrangement, terminal markings, and flag markings according to customer requirements.



Certified GRP housing

- Socover, thick walls (4.5 - 9 mm)
- High resistance to chemicals
- Silicone gasket (cover)
- 316L stainless steel mounting screws (cover)
- Operating temperature: -50...+95°C

DIN rail

- Steelgalvanized / stainless steel / copper
- Low (35×7 mm) / high (35×15 mm) / mini (15×5.5 mm)
- Horizontal / vertical orientation
- Up to 3 rails in the enclosure

Certified terminals

- For cables 2.5 - 120 mm²
- Markings according to customer requirements
- Operating temperature: -50...+120°C

Grounding plate

- Material: mosiądz / stainless steel
- Thickness: 2 mm / 3 mm
- Possibility to integrate the grounding plate into the mounting plate

Grounding outlet

- Dedicated grounding bolt M6 / M10 (nickel-plated brass) / cable gland for large conductor cross sections (polyamide / steel)
- M6 bolt for conductors up to 30 mm² cross-section / M10 bolt for conductors up to 120 mm² cross-section / cable gland for conductors over 120 mm² cross-section

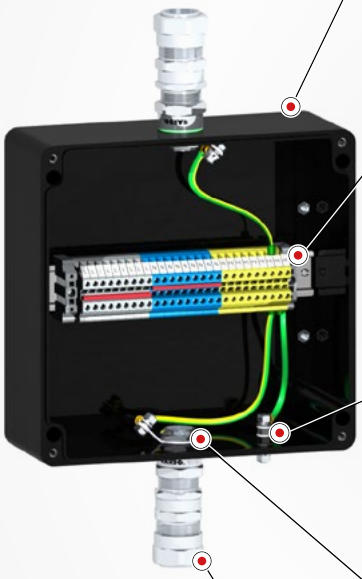
Certified metal cable glands

- Brass / nickel-plated brass / stainless steel
- Armored/unarmoured cables
- Operating temperature: -55...+160°C

Example 5

Variant with metal cable glands grounded through earth tag

- The grounding tag made of nickel-plated brass is an economical alternative to grounding plates.
- This type of grounding is used for up to two cable glands on one wall.
- The grounding bolt allows the box to be connected to an external grounding point.



Certified GRP housing

- Socover, thick walls (4.5 - 9mm)
- High resistance to chemicals
- Silicone gasket (cover)
- 316L stainless steel mounting screws (cover)
- Operating temperature: -50...+95°C

DIN rail

- Galvanized steel / stainless steel / copper
- Low (35x7mm) / high (35x15mm) / mini (15x5.5mm)
- Horizontal / vertical orientation
- Up to 3 rails in the enclosure

Grounding outlet

- Dedicated grounding bolt M6 / M10 (nickel-plated brass) / cable gland for large conductor cross sections (polyamide / steel)
- M6 bolt for conductors up to 30 mm² cross-section / M10 bolt for conductors up to 120 mm² cross-section / cable gland for conductors over 120 mm² cross-section

Grounding washer

- Material: nickel-plated brass
- Economical alternative to grounding plates
- Solution for max. 2 cable glands on one wall

Certified metal cable glands

- Brass / nickel-plated brass / stainless steel
- Armored/unarmoured cables
- Operating temperature: -55...+160°C

HTB1P series for zones 1/2 and 21/22

Predefined junction boxes for hazardous areas and harsh operating conditions



Technical data

Marking according to2014/34/EU	Ex II 2 G Ex eb IIC/IIB T6 Gb II 2 D Ex Ex tb IIIC T85°C
ATEX certificate	FIDI 22 ATEX 0065X
IECE certification	IECEx FIDI 22.0008X
Marking according to IECEx	Ex eb IIC T6 Gb Ex tb IIIC T85°C Db
Permissible ambient temperature	from -20°C to 40°C (optional -50°C to 95°C)
Max voltage	690 V AC
Protection class	I
Degree of protection according to EN 60529	IP66
Housing material	glass fiber reinforced polyester (GRP)
Housing color	black

Design features

- Robust, thick enclosure walls provide high structural rigidity and allow for the use of threads with a large number of turns, further enhancing the device's reliability.
- The cover is equipped with a silicone gasket, which effectively protects the interior of the housing from the ingress of moisture and dirt.
- The cover screws, made of AISI 316L stainless steel, guarantee durability and resistance to harmful external factors.
- Internal mounting screws, made of corrosion-resistant materials, significantly increase the durability and service life of the entire structure.

Certifications

HTB1P enclosures comply with safety standards, as confirmed by ATEX (FIDI 22 ATEX 0065X) and IECEx (IECEx FIDI 22.0008X) certifications. The boxes comply with Directive 2014/34/EU concerning equipment intended for use in Ex zones, making them an excellent choice for hazardous areas.

Versatility

An extensive portfolio of enclosures available in a variety of sizes makes it possible to precisely tailor a solution to individual user needs. The offer includes both small junction boxes and larger distribution boxes, ensuring versatility of applications.

Junction boxes with 2 or 3 cable glands

Photo	Housing dimensions	Built-in components	Cable glands	Order No
	80 x 75 x 55	Through-terminal block 1x L, 1x N, 1x PE	2 x M25	HTB1P 080806 S02001
	80 x 75 x 55	Through-terminal block 1x L, 1x N, 1x PE	2 x M25	HTB1P 080806 S02002
	80 x 75 x 55	Through-terminal block with jumpers: 2× L, 2× N, 2× PE	3 x M25	HTB1P 080806 S03001

Electrical parameters	
Rated current	16 A
Cable glands / Openings	max. 2 x M25
Dimensions (L x W x H)	75 x 80 x 56 mm
Product weight	~0,3 kg
Terminals	up to 5 x 4 mm^2

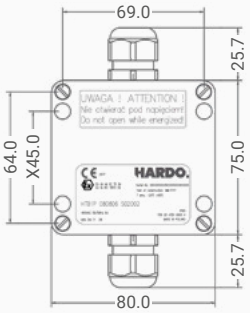
Junction boxes with 4 cable glands

Photo	Housing dimensions	Built-in components	Cable glands	Order No
	80 x 110 x 60	Through-terminal block with jumpers: 2× L, 2× N, 2× PE	4 x M25	HTB1P 081106 S04001
	80 x 110 x 60	Through-terminal block with jumpers: 2× L, 2× N, 2× PE	4 x M25	HTB1P 081106 S04002

Electrical parameters	
Rated current	16 A
Cable glands / Openings	max. 2 x M25 or 1 x M25 + 2 x M12
Dimensions (L x W x H)	75 x 110 x 60 mm
Product weight	~0,4 kg
Terminals	up to 10 x 4 mm^2

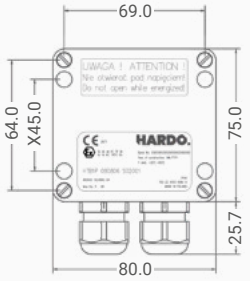
HTB1P 080806 S02001





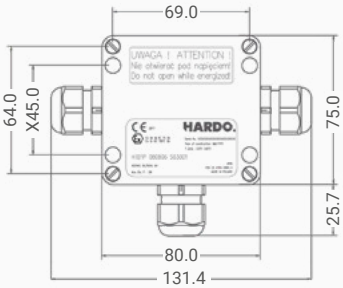
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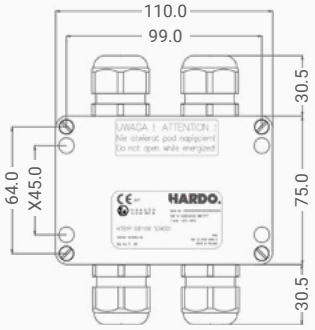
HTB1P 080806 S03001





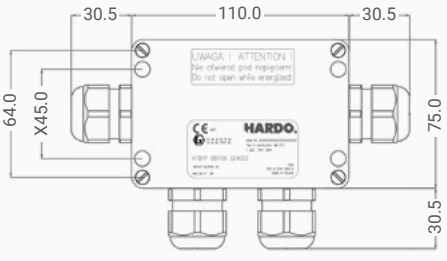
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X - mounting dimensions