

EX-D ENCLOSURES AND DISTRIBUTIONS

**Series GHG 66 made of metal
for gases of explosion group IIC**

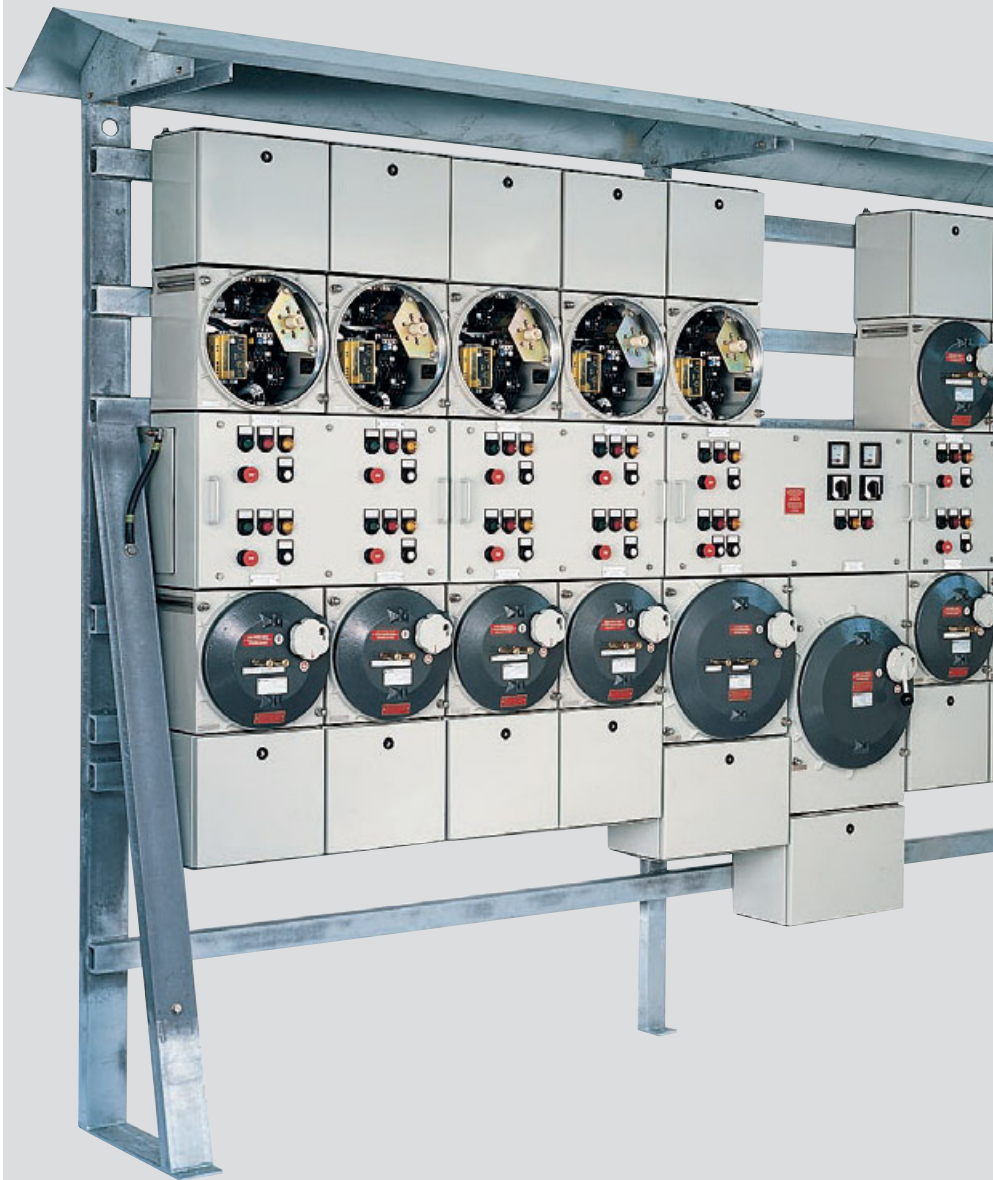
To use MCBs, fuses, contactors etc. which give off arcs in potentially hazardous areas, they must be integrated in Ex-d distributions.

For just this purpose, Eaton's Crouse-Hinds Business offers a distribution system comprising flameproof aluminium enclosures and Ex-e steel terminal boxes with a polyester powder coating suited for tropical and marine climates. Seven enclosure sizes can be combined into large distributions allowing integration of built-in components up to 630 A and 690 V.

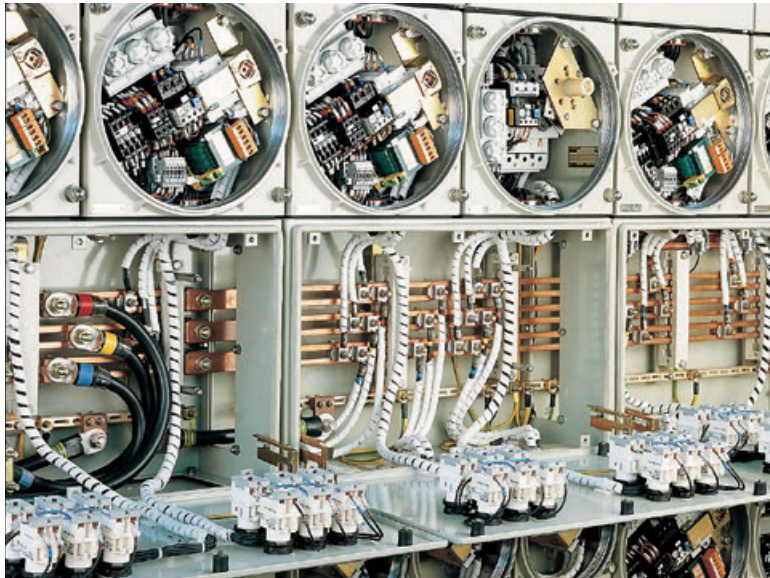
To simplify the integration of large installations, bus-bar systems for up to 630 A are used.

Customer-specified distributions are planned individually, taking explosion-protection requirements into account.

Explosion-protected signal lamps, indicating and control components are built into connection and bus-bar boxes, as required. Alternatively, these boxes can be supplied as separate terminal and control boxes. CEAG explosion-protected metal distributions fulfil all the requirements specified by the chemical, petrochemical and offshore industries..



- **Modular design**
- **Rated current up to 630 A**
- **Generously dimensioned terminal compartment**
- **Suited for tropical and maritime climates through powder coating**
- **Cable entries via removable flanges**
- **Main switch can be actuated from outside**
- **Metal parts without finish are corrosion resistant**
- **Explosion group IIC**



The modular design provides an economical and clearly arranged method of putting together distributions on the unit construction system using connection and bus bar boxes in the type of protection "Increased Safety". The individual flameproof distribution enclosures are joined together via the flange openings of the Ex-e connection boxes and the bus bar boxes. It is also possible to put together completely flameproof distributions by using flameproof cable glands.

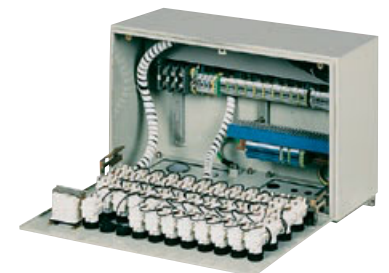
The flameproof enclosures are also available as empty enclosures with and without Ex-e connection boxes as well as with and without main switches for equipping by the customer. In this case, please note that national standards require a special inspection by an authorized expert. Also single or multi-wire bushings with connectors can be mounted on the distributions, if required. Alternatively, these leads can be connected to a terminal rail.

Any conventional industrial switchgear that gives off arcs or sparks during operation can be built into these flameproof enclosures. The power dissipation must not exceed the values stated in the PTB certificate.

The various circuits can be connected quickly and economically via a bus-bar system.



If required, individually encapsulated control and indicating units, such as pushbuttons, control switches or Ex-e measuring instruments as well as Ex-i digital indicating instruments can be built into the Ex-e connection or bus-bar boxes.



The enclosures can be combined into large distribution system on standardised wall mounting or free-standing frameworks. The frameworks come in standardized sizes to accommodate the enclosure modules and can be extended as required.

For outdoor installations, we recommend canopies to protect the distribution system from the sun and rain. Smaller distributions are mounted on flat or U-rails. All enclosures are made of hot-dip galvanised steel.



Ex-Control and distribution systems



Type 1



Type 2



Type 4



Type 5

Technical data

Ex d Light alloy enclosure for motor starter

Marking accd. to 94/9/EC	II 2 G Ex de ia/ib [ia/ib] IIC/IIB T6/T5/T4 Gb II 2 d Ex tb IIIC T80 °C T95 °C Db ¹⁾
EC-Type Examination Certificate	PTB 99 ATEX 1057
IECEX-Certificate of Conformity	IECEX PTB 12.0026
Marking accd. to IECEx	Ex de IIC T6, T5, T4 Gb Ex de IIB T6, T5, T4 Gb
Permissible ambient temperature	-20 °C up to +40 °C -55 °C up to +55 °C (option)
Rated voltage	690 V
Rated current	630 A
Protection class	I
Connecting terminals	up to 300 mm ²
Degree of protection acc. to EN 60529 ¹⁾	IP54 (IP66 on request)
Weight	see ordering details
Enclosure material	aluminium die-cast housing
Enclosure colour	pebbles grey, cover dark grey

¹⁾ Dust certification only in combination with IP66

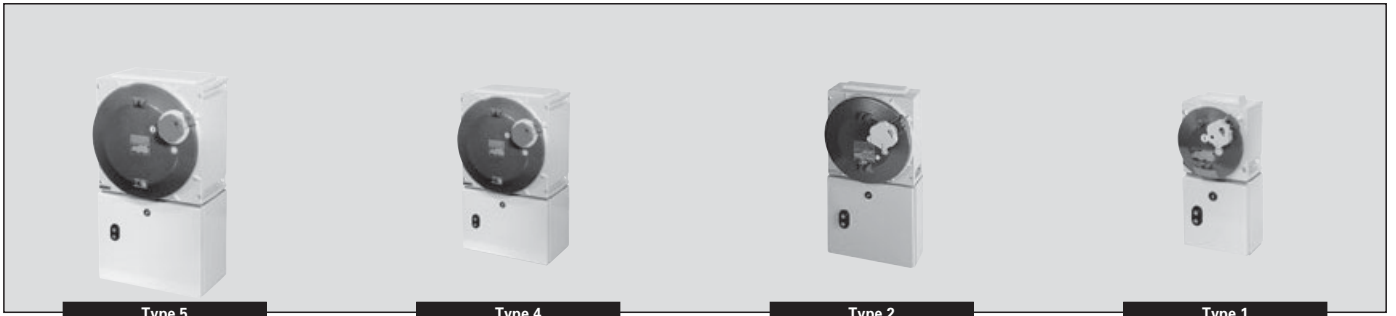
Ordering details

Content Motor capacity to AC 3	Type	Main switch	Cable glands	Weight approx.	Degree of protection nach EN 60529	Order No.
Direct circuit						
11 kW	1	25 A	3 x M25	14.5 kg	IP54	EXKO 71 5000 F 0000
15 kW	2	25 A	2 x M32 / 1 x M25	24.5 kg	IP54	EXKO 71 5000 H 0000
22 kW	4	40 A	2 x M40 / 1 x M25	37.5 kg	IP54	EXKO 71 5000 K 0000
Reversing circuit						
11 kW	1	25 A	3 x M25	14.5 kg	IP54	EXKO 71 5100 F 0000
15 kW	2	25 A	2 x M32 / 1 x M25	24.5 kg	IP54	EXKO 71 5100 H 0000
22 kW	4	40 A	2 x M40 / 1 x M25	39.5 kg	IP54	EXKO 71 5100 K 0000
Star-delta starter						
7.5 kW	2	40 A	4 x M25	25 kg	IP54	EXKO 71 5200 B 0000
12.5 kW	2	40 A	4 x M25	25 kg	IP54	EXKO 71 5200 D 0000
18.5 kW	4	40 A	3 x M32 / 1 x M25	37 kg	IP54	EXKO 71 5200 F 0000
30.0 kW	4	63 A	3 x M32 / 1 x M25	39 kg	IP54	EXKO 71 5200 H 0000
37.0 kW	5	100 A	1 x M40 / 2 x M32	64 kg	IP54	EXKO 71 5200 K 0000
			1 x M25			
55.0 kW	5	100 A	1 x M40 / 2 x M32	64 kg	IP54	EXKO 71 5200 M 0000
			1 x M25			

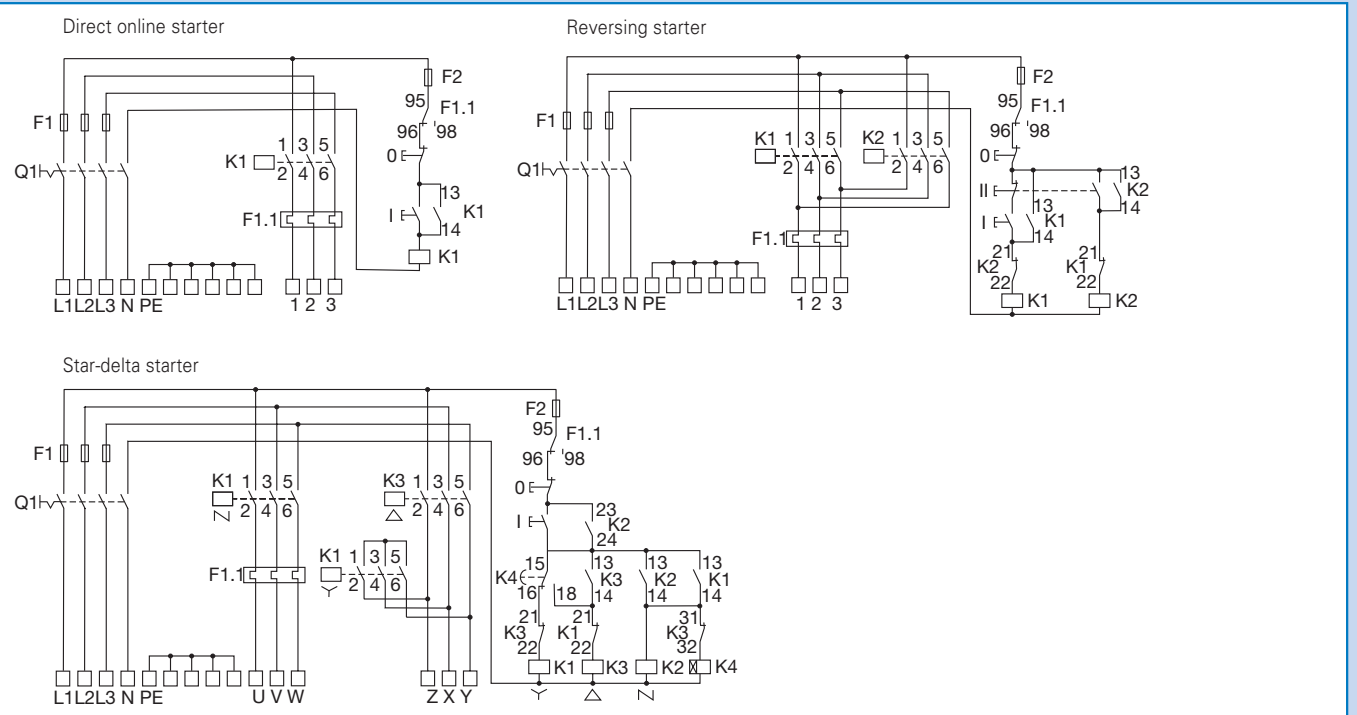
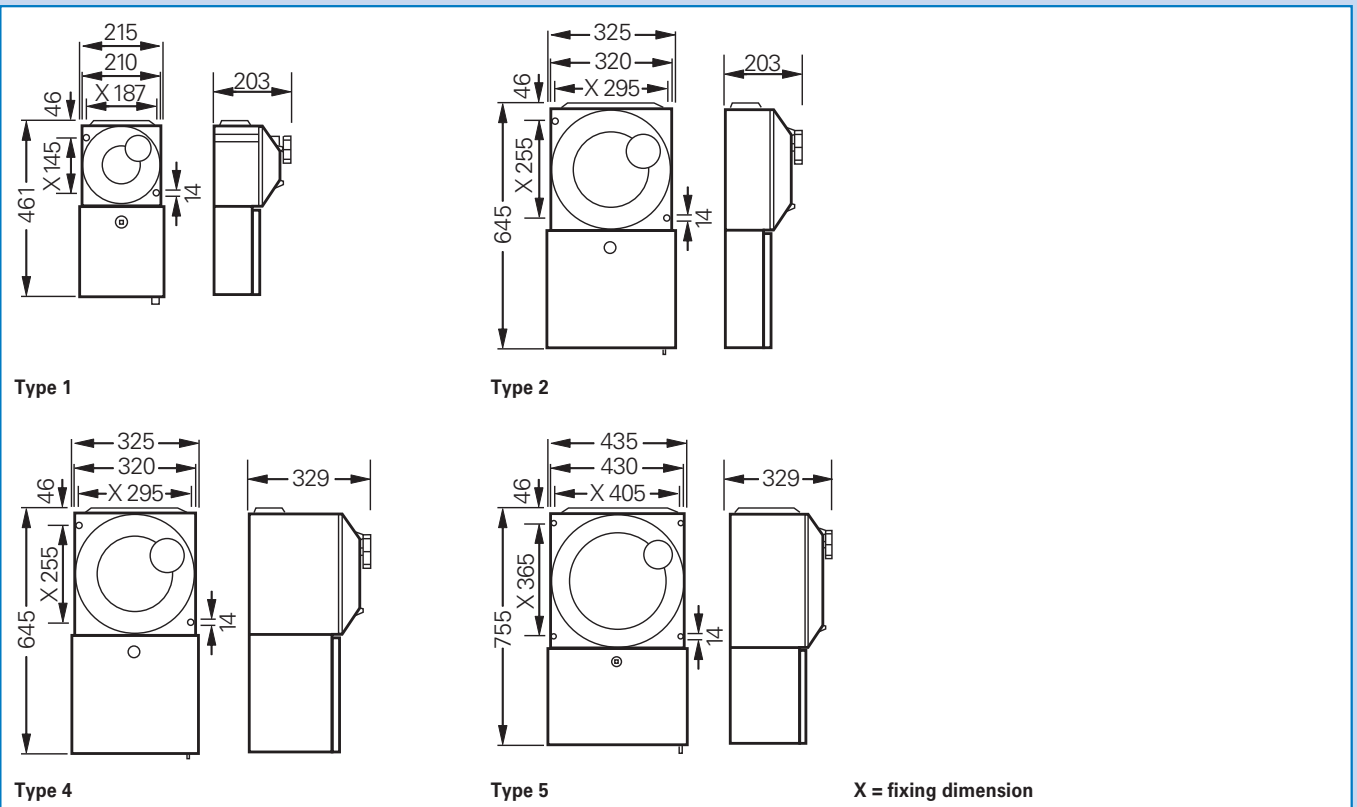
The motor starters are completely wired for connection by customer.

Further switching capacities up to 630 A on request.

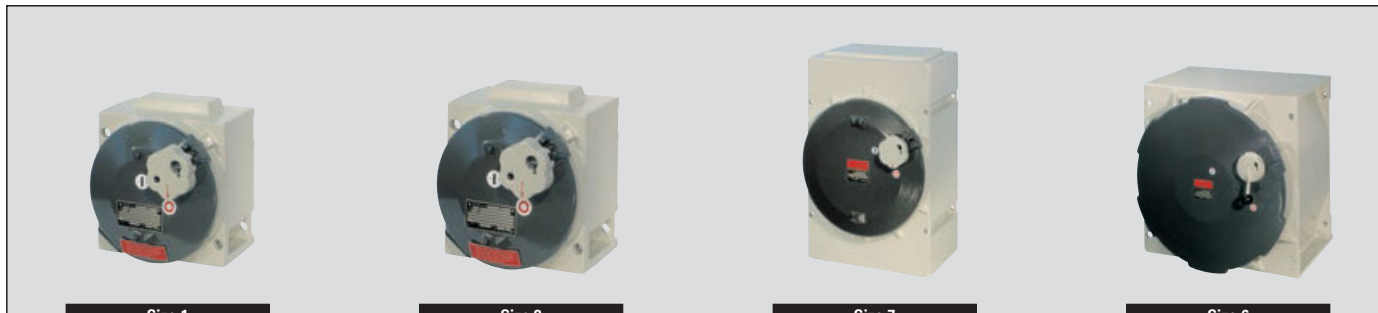
Please state motor operating voltage and rated current in your order.



Dimension drawing | Wiring diagram



Ex-Control and distribution systems



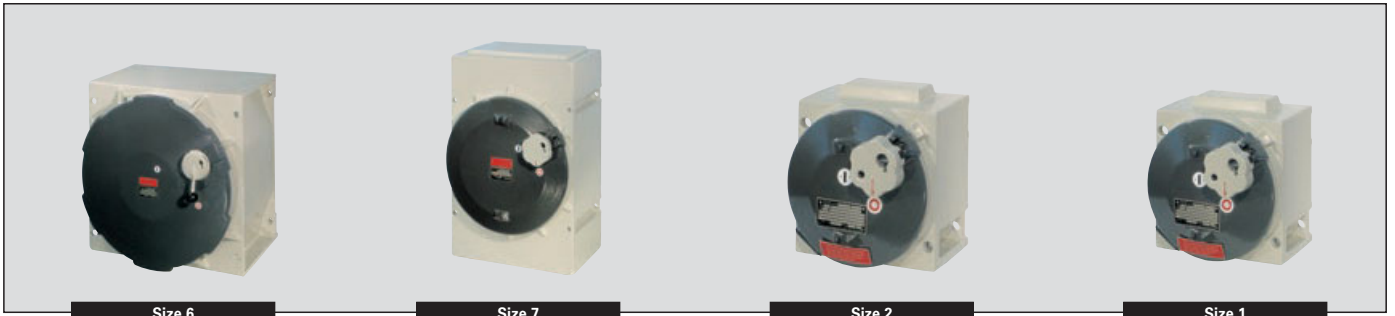
Technical data

Ex d light alloy empty enclosures

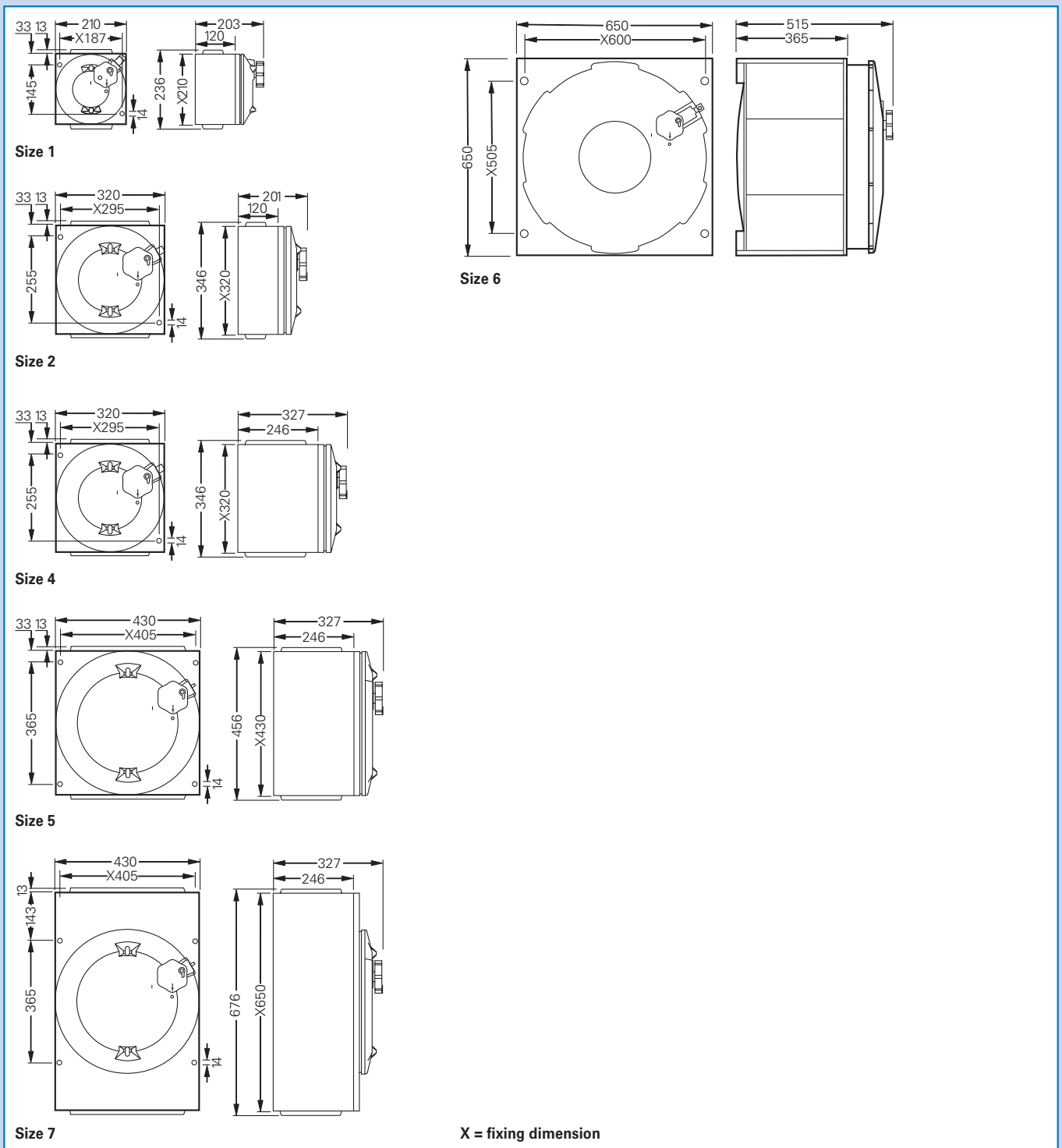
Marking accd. to 94/9/EC	II 2 G Ex de ia/ib [ia/ib] II II 2 D Ex tD A21 IP66
EC-Type Examination Certificate	PTB 98 ATEX 1054U
IECEX-Certificate of Conformity	IECEX PTB 12.0026
Marking accd. to IECEx	Ex de IIC / IIB Gb / Ex tb IIIC Db Ex de IIB T6, T5, T4 Gb
Permissible ambient temperature	-20 °C up to +40 °C -55 °C up to +60 °C (option)
Rated voltage	690 V
Rated current	630 A
Connecting terminals	up to 300 mm ²
Degree of protection accd. to EN 60529	IP54 (IP66 on request)
Weight	see ordering details
Enclosure material	aluminium die-cast housing
Enclosure colour	coating suited for tropical and marine climates finish polyester coating in RAL 7032/7022

Ordering details

Content	Power dissipation		Rated current	Weight	Order No.
	T6	T5			
Ex d light alloy empty enclosures					
Size 1	80 W	120 W	125 A	8 kg	on request
Size 2	150 W	210 W	260 A	16 kg	on request
Size 4	210 W	280 W	400 A	23 kg	on request
Size 5	300 W	420 W	400 A	40 kg	on request
Size 7	300 W	420 W	400 A	55 kg	on request
Size 6	700 W	975 W	630 A	195 kg	on request



Dimension drawing





Connection box



Bus-bar box

Technical data

Sheet steel-connection box

Marking accd. to 94/9/EC	II 2 G Ex de ia/ib [ia/ib] IIC T4 - T6
	II 2 D Ex tD A21 IP66 T80 °C, T95 °C, T100 °C
EC-Type Examination Certificate	PTB 00 ATEX 1073
Permissible ambient temperature	-55 °C up to +55 °C
Rated voltage	690 V
Rated current	630 A
Connecting terminals	up to 240 mm ²
Degree of protection accd. to EN 60529	IP54 (IP65 on request)
Weight	see ordering details
Enclosure material	steel
Enclosure colour	finish polyester powder coating in RAL 7032

Sheet steel-bus-bar box

Marking accd. to 94/9/EC	II 2 G Ex de ia/ib [ia/ib] IIC T4 - T6		
	II 2 D Ex tD A21 IP66 T80 °C, T95 °C, T100 °C		
EC-Type Examination Certificate	PTB 00 ATEX 1073		
Permissible ambient temperature	-55 °C up to +55 °C		
Rated voltage	690 V		
Rated current	250 A	400 A	630 A
Rated short-circuit current	35 kA	53 kA	59.2 kA
Rated thermal short-time current	9.4 kA (1s)	10.7 kA (1s)	13.2 kA (1s)
Terminal cross section	up to 240 mm ²		
Degree of protection accd. to EN 60529	IP54 (IP66 on request)		
Weight	see ordering details		
Enclosure material	steel		
Enclosure colour	finish polyester powder coating in RAL 7032		

Ordering details

Content	Max. no. of built-in control units	Module size	Length of terminal rail	Weight	Order No.
Sheet steel-connection box					
AK 1-2	4	1	1 x 190 mm	4.3 kg	on request
AK 2-2	15	2	2 x 300 mm	7.0 kg	on request
AK 4-1	15	4	3 x 300 mm	9.5 kg	on request
AK 5-1	21	5	3 x 410 mm	11.5 kg	on request
AK 6-1	52	6	3 x 630 mm	23.5 kg	on request

Sheet steel-bus-bar box					
SSK 1	20	1	1 x 295 mm	11.0 kg	on request
SSK 2	28	2	2 x 405 mm	15.0 kg	on request
SSK 3	52	3	2 x 625 mm	23.0 kg	on request
SSK 4	72	4	2 x 845 mm	31.0 kg	on request



Bus-bar box



Connection box

Dimension drawing

	Sheet steel-connection box	Sheet steel-bus-bar box
Size 1		
Size 2		
Size 3		
Size 4		
Size 5		
Size 6		