

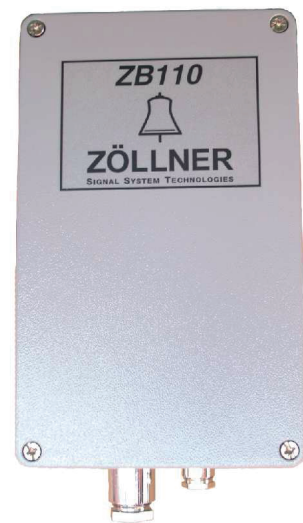
Electronic Bell / Gong ZBG 110

General Features

The ZÖLLNER Bell and Gong System ZBG110 is an electronic device to fulfill the requirements of the Colregs 1972, Rule 33(a) "...a vessel of 20 metres or more in length shall be provided with a bell in addition to a whistle, and a vessel of 100 or more metres in length shall, in addition, be provided with a gong. ...manual sounding ... shall always be possible." The system consists of one electronic bell ZB110, one electronic gong ZG110 and the control and connecting unit Signal Automaton 10+SGA. To fully comply with the rule, a manual bell and gong must supplement the electronic system.

Essentials

- full compliance with the Colregs 1972
- type approved by all wellknown international maritime authorities, certificates by the classification societies on request



Sound characteristics

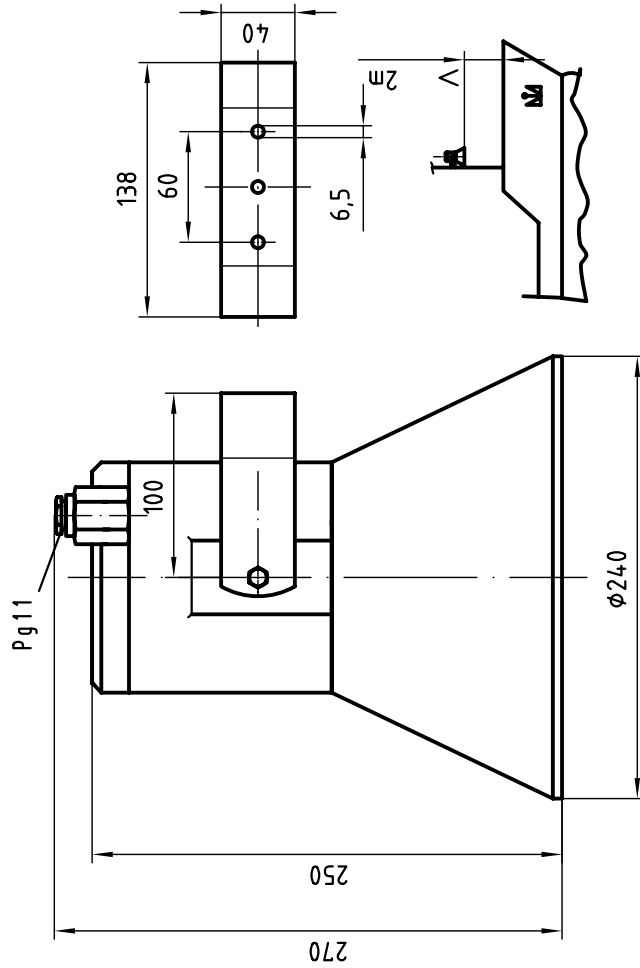
- unequivocal sound of bell and gong ZBG110, identical to conventional types
- sound pressure level of 110 dB at 1 m distance

Advantages

- latest technical standard
- best material and workmanship - made in Germany
- maintenance free

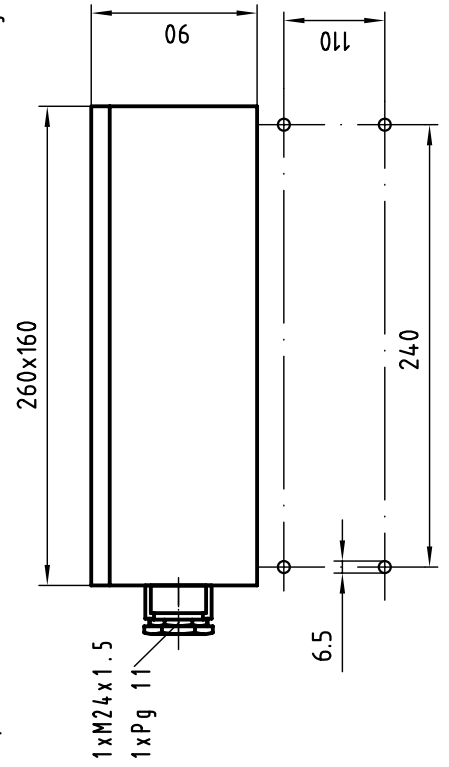
Glocke-Elektronik-Schallsender ZB 110
Bell-Electronic-Sound -Emitter ZB 110

Gewicht : 2,0kg
Weight : 2,0kg



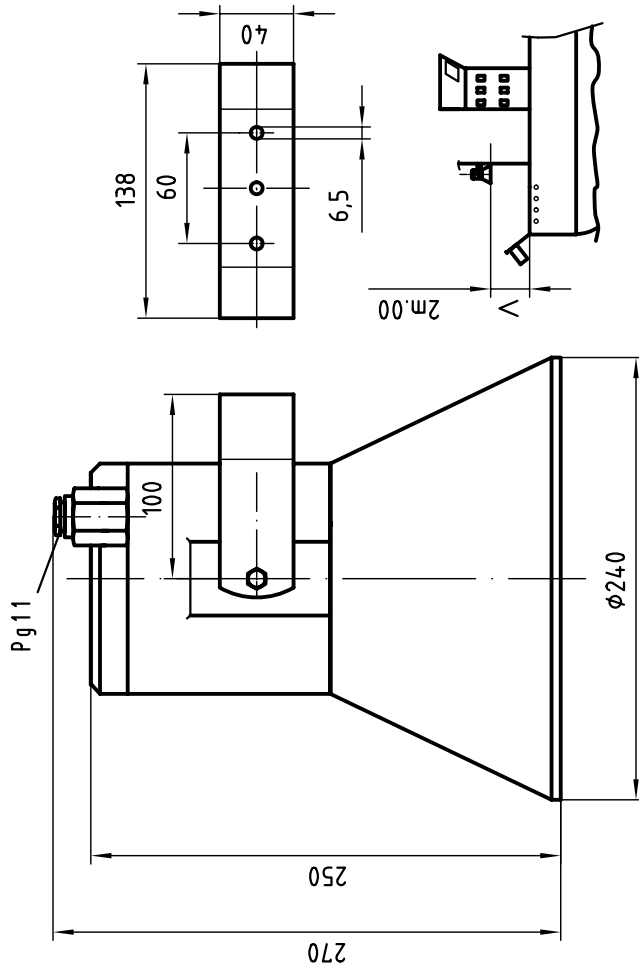
Schalldruckpegel : 110 dB(A)/1m
Sound Level : 110 dB(A)/1m
Verstärkereinheit ZB 110
Amplifier Unit ZB 110

Gewicht : 3,0kg
Weight : 3,0kg



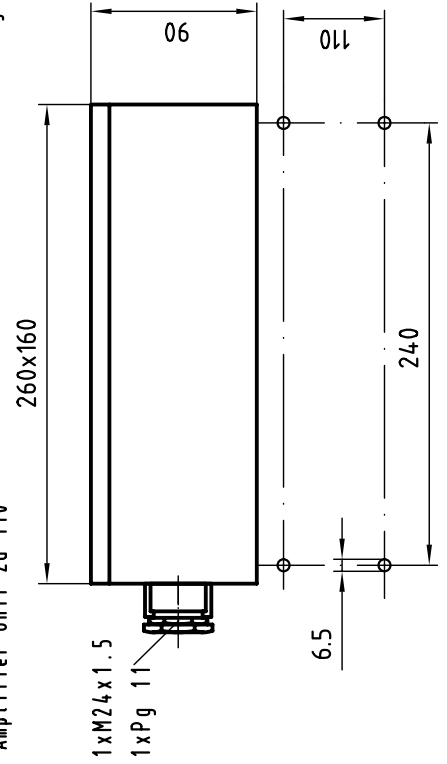
Gong-Elektronik-Schallsender ZG 110
Gong-Electronic-Sound -Emitter ZG 110

Gewicht : 2,0kg
Weight : 2,0kg



Schalldruckpegel : 110 dB(A)/1m
Sound Level : 110 dB(A)/1m
Verstärkereinheit ZG 110
Amplifier Unit ZG 110

Gewicht : 3,0kg
Weight : 3,0kg



The electronic bell and gong system ZBG110 consists of a loud speaker ZB110 with amplifier unit and a loudspeaker ZG110 with amplifier unit.

According to the Colregs 1972, the electronic bell ZB110 must be installed on the fore ship and the electronic gong ZG110 on the aftship. In order to reduce interception of the emitted sound, the loudspeakers must be positioned at least 2 metres above the surrounding topsides. The amplifier units must be installed in a closed room (e.g. wheel house).

Signals according to *Rule 35(g)* of the Colregs 1972 are released in combination with the signal automaton 10+SGA (old 10+SBG):

"A vessel at anchor shall at intervals of not more than one minute ring the bell rapidly for about 5 seconds. In a vessel of 100 metres or more in length the bell shall be sounded in the forepart of the vessel and immediately after the ringing of the bell the gong shall be sounded rapidly for about 5 seconds in the after part of the vessel."

The ZÖLLNER electronic bell and gong system ZBG110 consists of the following components:

1. Electronic Bell ZB 110

1.1	design similar to drawing	01414060-4
	dimensions	d= 240 mm
	length over all:	270 mm
	protection type:	IP 67
	temperature range:	+120°C/ -50°C
	frequency range:	360-6800 Hz
	weight:	approx. 2.0 kg
	sound pressure level:	≥ 110 dB/1 at 1 m
		(acc. to Colregs 1972, Annex III, 2a)

1.2 amplifier unit for electronic bell

dimensions:	260 x 160 x 90 mm
protection type:	IP 65
weight:	approx. 3.0 kg
cable glands:	2 pcs M24 x 1.5
max. admissible distance between sound device and amplifier unit:	less than 20 m
For wiring in combination with signal automaton 10+SGA (old 10+SBG) please see drawing 01506539 und 01506540 (old 0116442-4 and 0116441-4).	

Assembly: on the fore ship at a height of at least 2 m above the surrounding (sound obstructing) topsides.

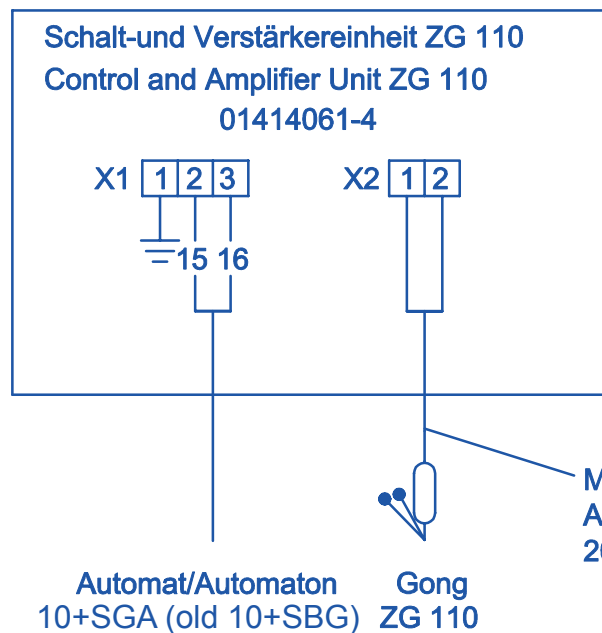
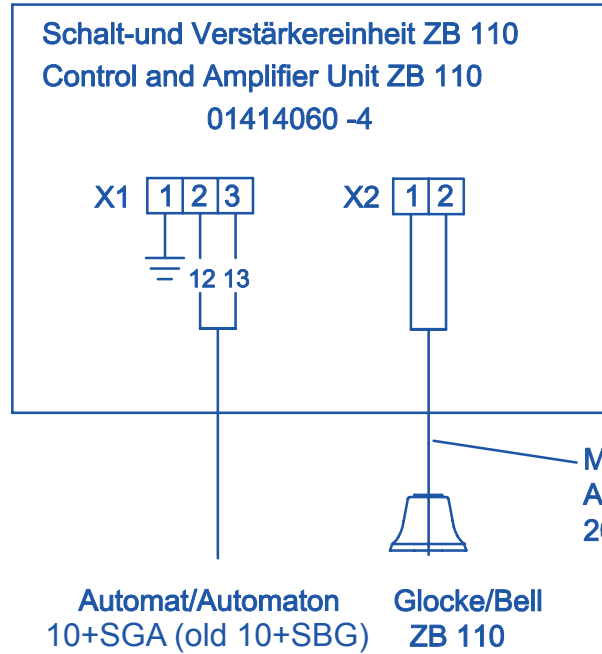
2. Electronic Gong ZG 110

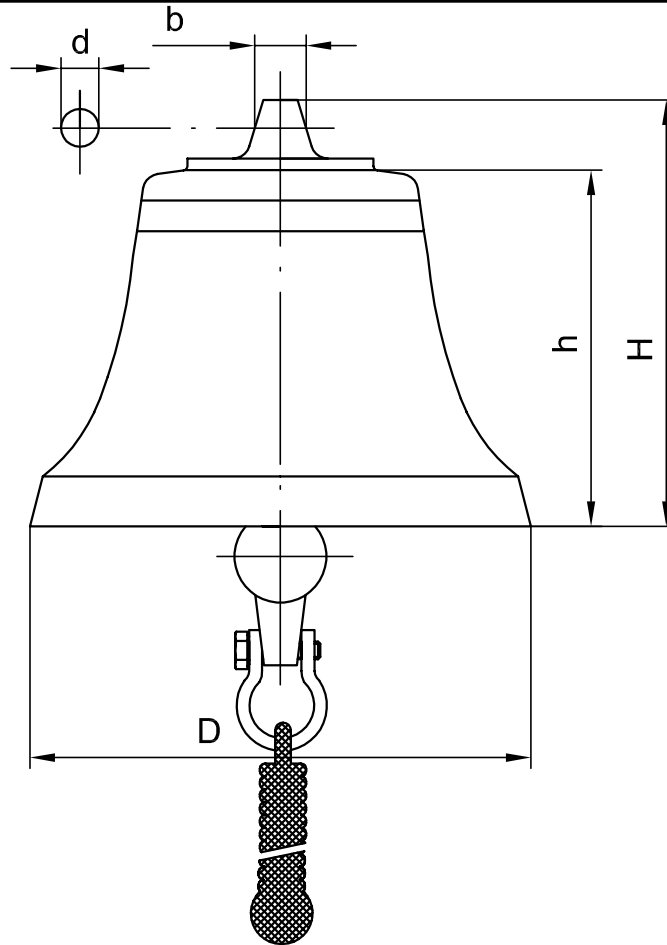
2.1	design similar to drawing	01414061-4
	dimensions:	d= 240 mm
	length over all:	270 mm
	protection type:	IP 67
	temperature range:	+ 120°C/ -50°C
	frequency range:	360 - 6800 Hz
	weight:	approx. 2.0 kg
	sound pressure level:	≥ 110 dB/1 m
		(acc. to Colreg 1972, Annex III, 2a)

2.2 amplifier unit for electronic gong

dimensions:	260 x 160 x 90 mm
protection type:	IP 65
weight:	approx. 3.0 kg
cable gland:	2 pcs. M 24 x 1.5
max. admissable distance between sound device and amplifier unit:	less than 20 m
for wiring in combination with the signal automaton 10+SGA (old 10+SBG) please see drawing 01506539 and 01506540 (old 0116442-4 and 016441-4).	

Assembly: on the aft ship at a height of 2 m above the surrounding
(sound obstructing) topsides.





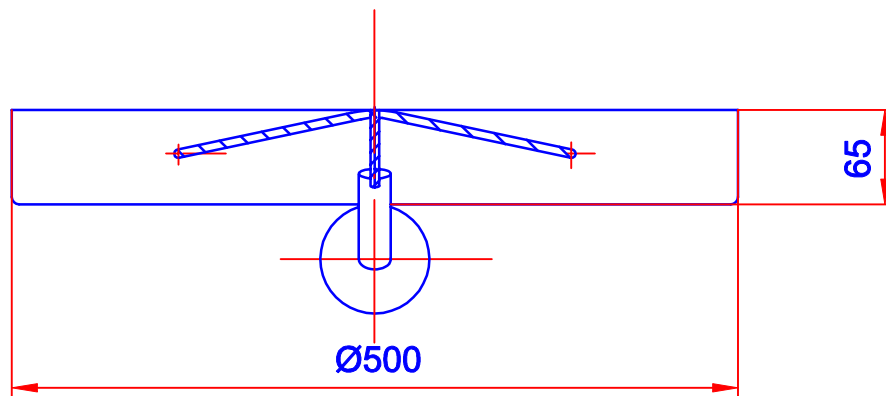
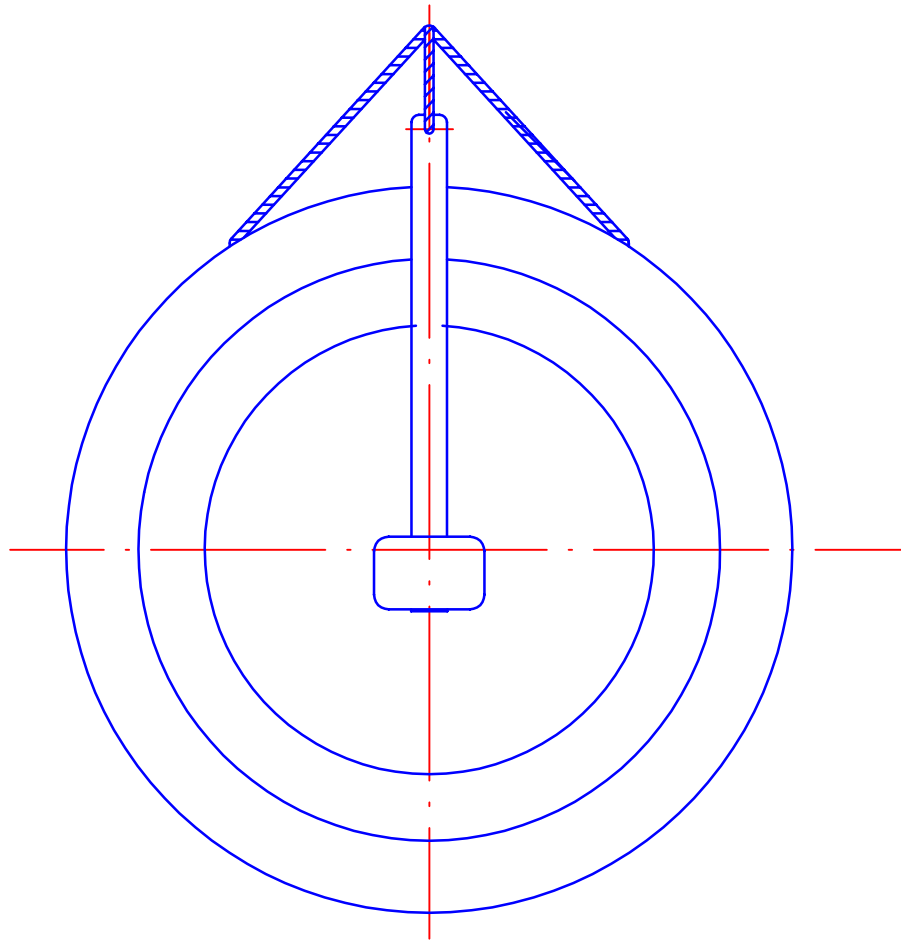
Maße/dimensions in mm	Länge des Fahrzeugs/length of vessel in m		
	12 bis/ up to 20 m	größer als/more than 20 m	
Ø D	200	300	350
d	11	13	16
H	205	300	340
h	ca. 155	ca. 230	ca. 260
b	10...20	25...30	50...65
Masse der Glocke/mass of bell	4 kg	16 kg	23 kg

Die Glocke entspricht Colreg 1972, Anhang III, 2(a) und (b), Schalldruckpegel 110 dB bei 1 m Abstand. Für Fahrzeuge mit einer Länge von 100 m und mehr ist zusätzlich ein Gong auf dem Achterschiff erforderlich. Die Abmessungen des Gongs entnehmen Sie bitte der Zeichnung 0144599.

The bell is in accordance with the Colregs 1972, Annex III, 2 (a) and (b) sound pressure level 110 dB at 1 m distance. Vessels of 100 m or more in length must, in addition, be provided with a gong installed on the aftship. For dimensions of the gong please see drawing 4599.

Der Gong entspricht Colreg 1972, Annex III, 2(a) und (b), Schalldruckpegel 110 dB(A) bei 1 m Abstand. Er ist für Fahrzeuge von 100 m und mehr erforderlich.

The gong is in accordance with the Colregs 1972, Annex III, 2 (a) and (b), sound pressure level 110 dB(A) at 1 m distance. It is required for vessels of 100 m or more in length.



Der Gong entspricht Colreg 1972, Annex III, 2 (a) und (b), Schalldruckpegel 110 db(A) bei 1 m Abstand. Er ist für Fahrzeuge von 100 m und mehr erforderlich.

The gong is in accordance with the Colreg 1972, Annex III, 2 (a) and (b), sound pressure level 110 db(A) at 1 m distance. It is required for vessels of 100 m or more in length.

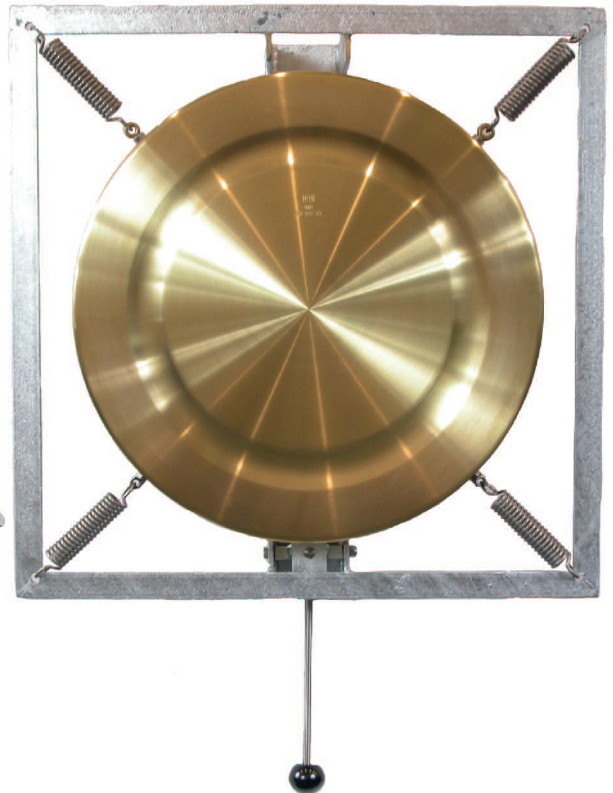
ELECTRO-MECHANICAL BELL AND GONG SYSTEM 350EL / 500EL / 1+

General Features

The ZÖLLNER Bell 350EL / Gong 500EL / 1+ system is an electro-mechanical device to fulfill the requirements of the Colregs 1972, Rule 33(a) "...a vessel of 20 metres or more in length shall be provided with a bell..., and a vessel of 100 metres in length shall, in addition, be provided with a gong. ...manual sounding ... shall always be possible." The system consists of one electro-mechanical bell 350EL, one electro-mechanical gong 500EL and the control and connecting unit Signal Automaton 1+

Essentials

- full compliance with the Colregs 1972
- type approved by all wellknown international maritime authorities, certificates by the classification societies on request



Sound characteristics

- true sound of bell and gong
- sound pressure level of 110 dB at 1 m distance

Advantages

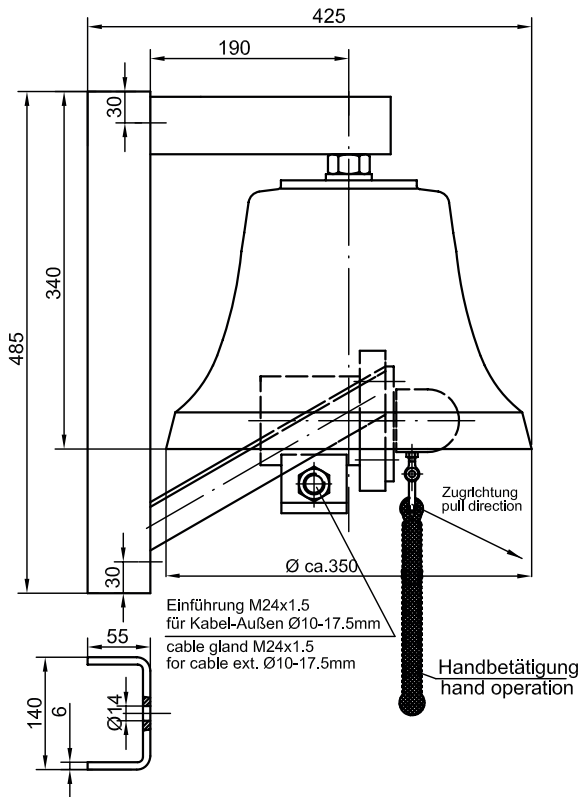
- latest technical standard
- best material and workmanship - made in Germany
- maintenance free

Glocke / Bell 350 EL elektromechanisch angetrieben
with elektro-mechanical drive

Gong 500 EL elektromechanisch angetrieben
with elektro-mechanical drive

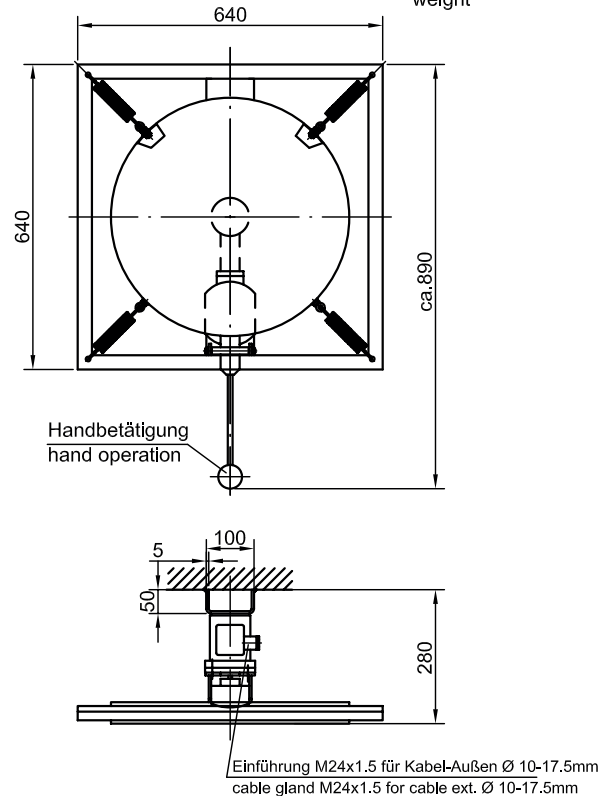
0144630

Gewicht: ca.32 kg
weight



0144538

Gewicht: ca.24 kg
weight

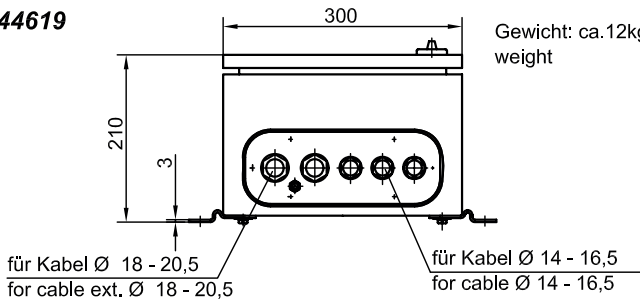


Schaltkasten für / switchbox for Automaton 1+ mit/ohne Stillstandsheizung / with/without space heating

Bedieneinheit für / control unit for Automaton 1+

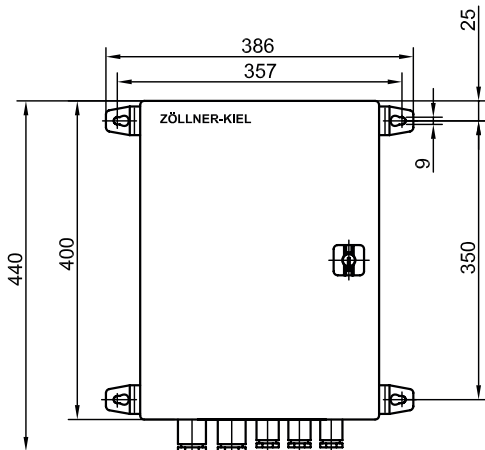
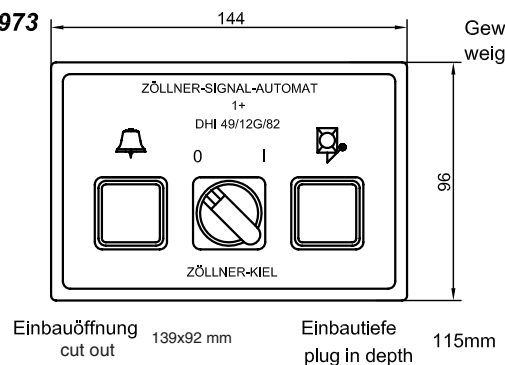
0144619

Gewicht: ca.12kg
weight

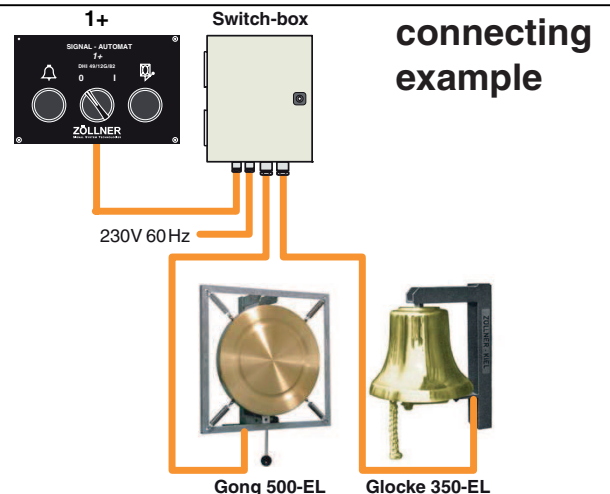


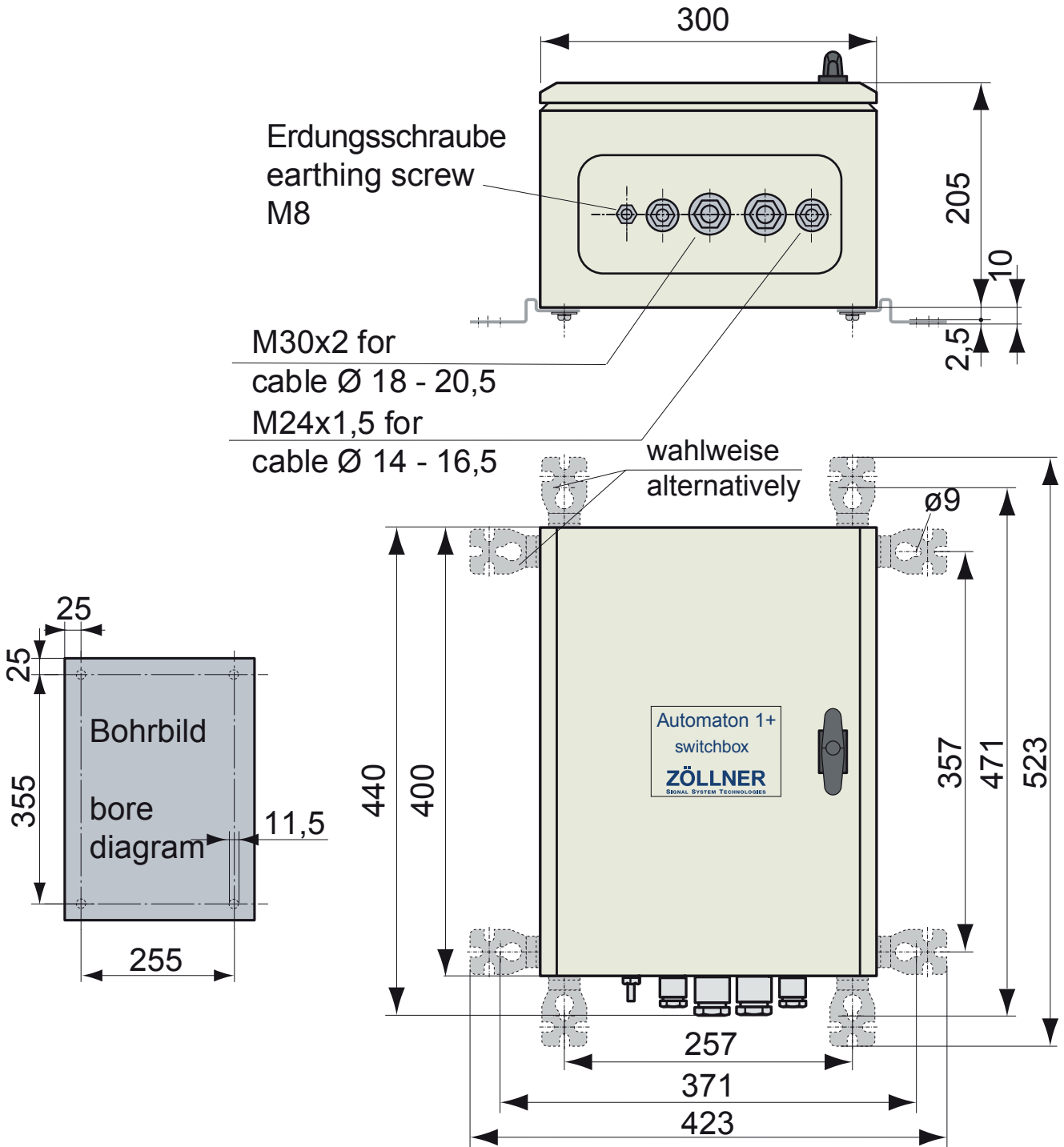
0144973

Gewicht: ca.0.5kg
weight



Kabelverschraubung nach DIN 89280 für MGCG-Kabel
cable gland according to DIN 89280 for MGCG cable





cable gland
DIN 89280
MGCG cable

Gewicht 12kg
weight

The Signal Automaton 1+ consists of a switch unit 0144973 and a switch box 0144619.

After installation into the bridge console and electric connection the switch unit is ready for operation at any time. The switch box shall be installed within the navigation bridge.

The Signal Automaton 1+ serves to release automatically the sound signals in accordance with Rule 35 (g) of the Colregs 1972, which reads:

"A vessel at anchor shall at intervals of not more than one minute ring the bell rapidly for about 5 seconds. In a vessel of 100 metres or more in length the bell shall be sounded in the forepart of the vessel and immediately after the ringing of the bell the gong shall be sounded rapidly for about 5 seconds in the after part of the vessel. A vessel at anchor may in addition sound three blasts in succession, namely one short, one prolonged and one short blast, to give warning of her position and of the possibility of collision to an approaching vessel."

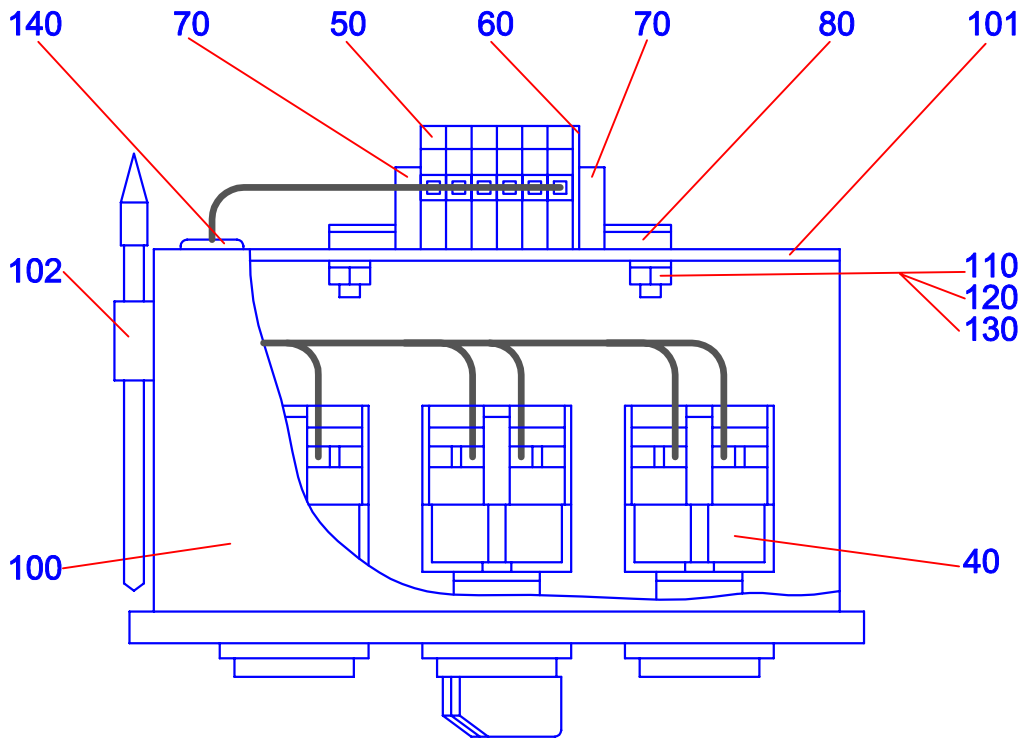
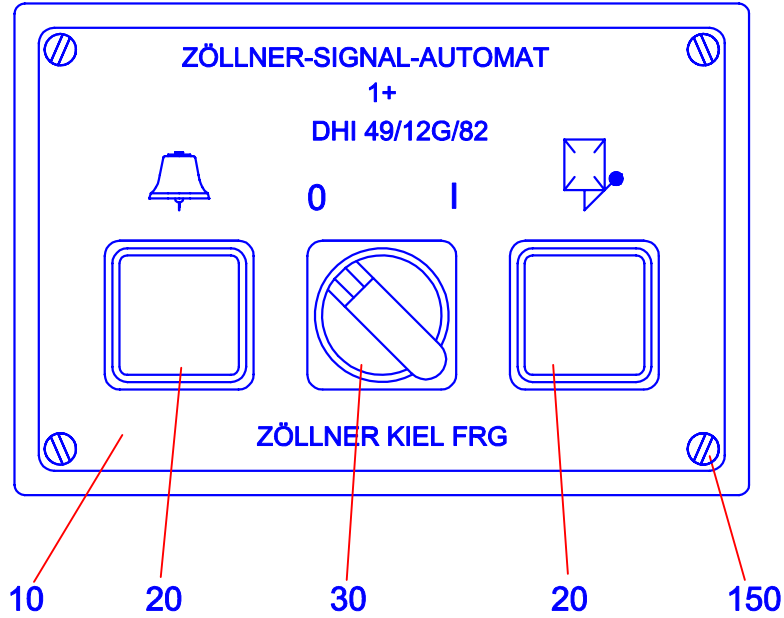
Activating the switch unit of the Signal Automaton the program is released automatically until it is deactivated again.

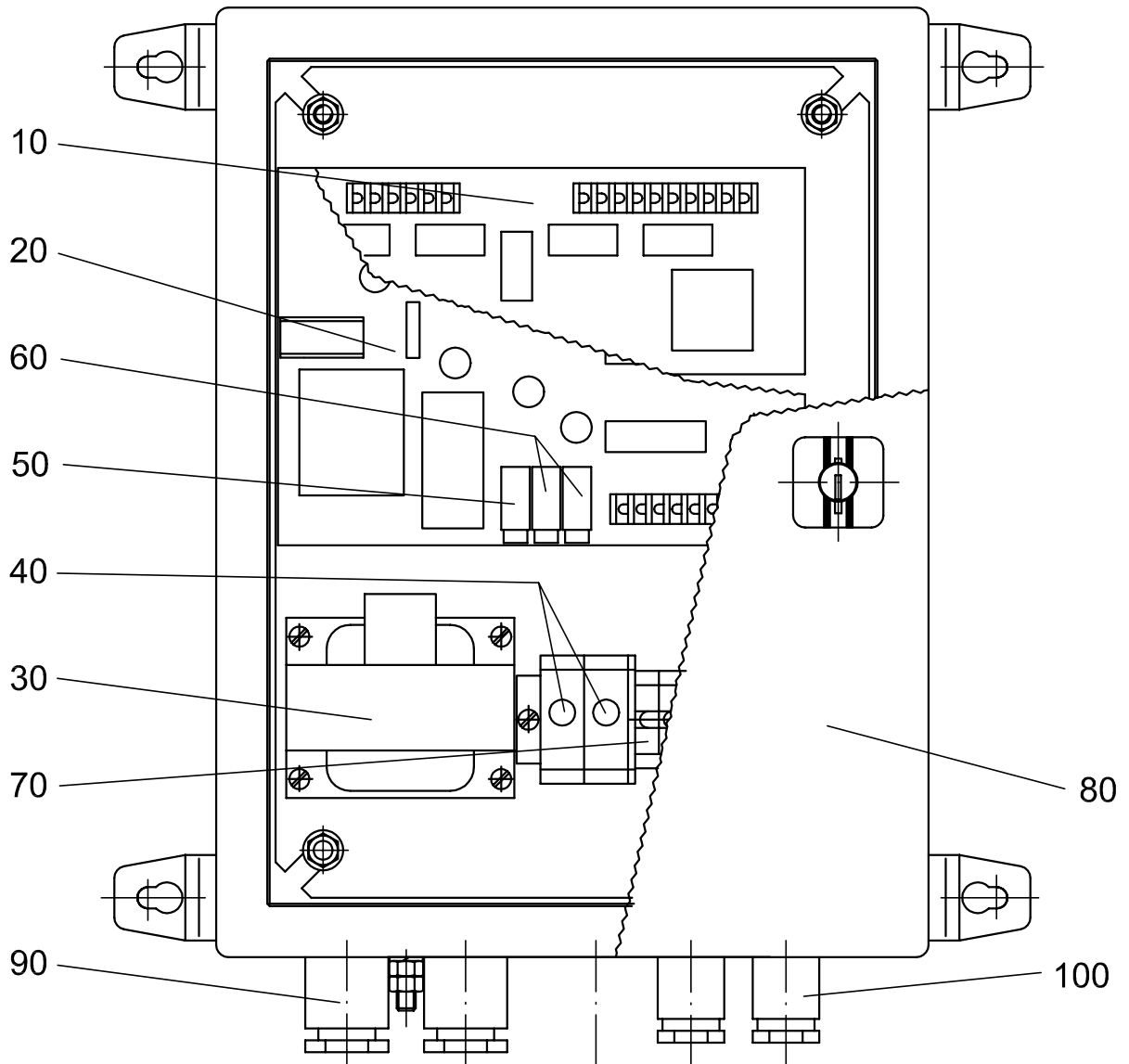
With the hand key for bell and gong single signals may be released.

A hand release required according to Annex III of the Colregs 1972 is possible with a "bell rope" - part 21 of drawing 7332.

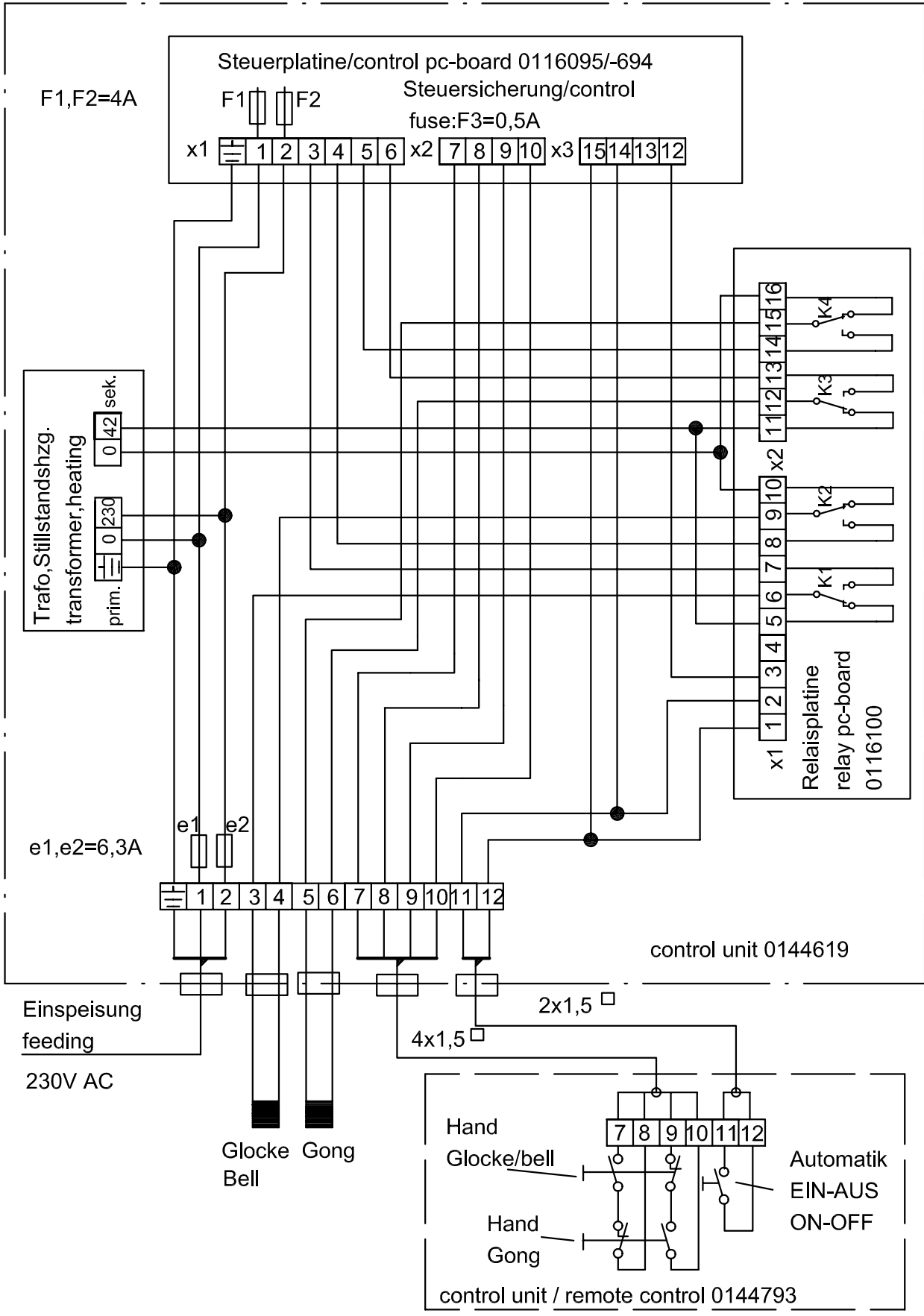
The angle of pull as shown on drawing SP 4630 shall be adhered to (a possible security device for transportation must be removed).

Always state the Serial Number of the unit when placing a spare parts order.





Pos. Item	Stck. Qty	Bestell-Nr. Order-No.	Techn. Daten Techn. Data	Bezeichnung	Designation
10	1	0116100	224x90x1,5	Relaisplatine	relay pc board
20	1	0116694	224x159x1,5	Steuerplatine	control pc board
30	1	6800102042	100VA/230V	Transformator	transformer
40	2	683708906	6,3A Ø5x20	Sicherung	fuse
50	1	683320105	0,5A Ø5x20	Sicherung	fuse
60	2	683320140	4,0A Ø5x20	Sicherung	fuse
70	1	7484.70		Klemmleiste kompl.	terminal compl.
80	1	8870029991	300x400x200	Gehäuse	housing
90	2	677073002	M30x2	Kabelverschraubung	cable gland
90	2	677023020	M30x2	Gegenmutter	counter nut
100	2	677072415	M24x1,5	Kabelverschraubung	cable gland
100	2	677022415	M24x1,5	Gegenmutter	counter nut

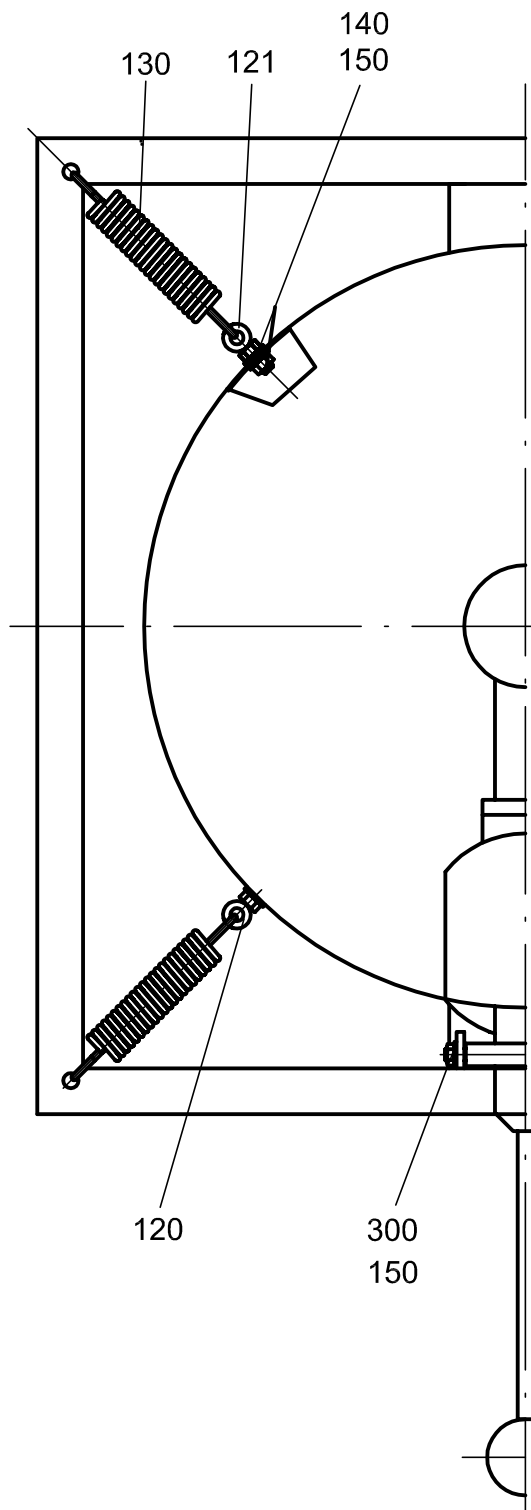
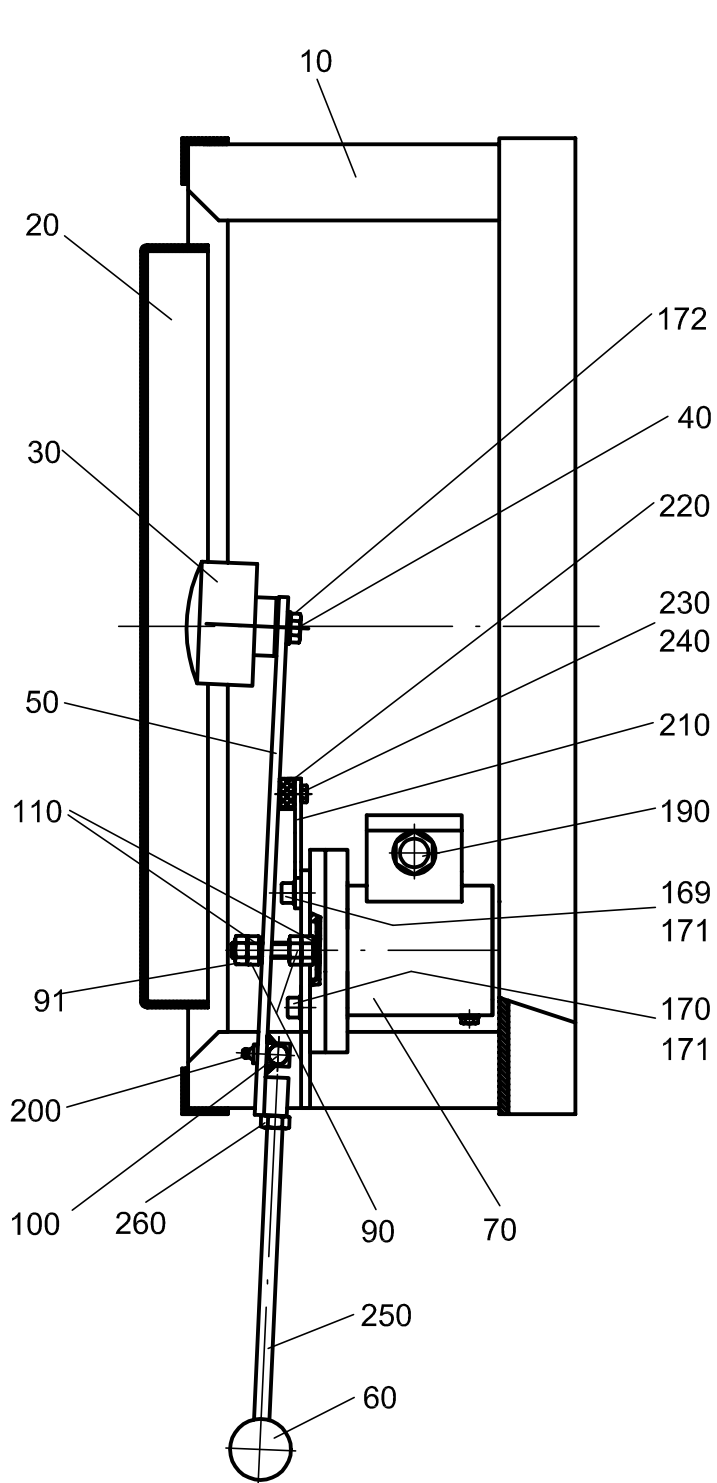


Pos. Item	Stck. Qty	Bestell-Nr. Order-No.	Techn. Daten Techn. Data	Bezeichnung	Designation
10	1	0105466	138x90x1,5	Frontplatte	front plate
20	2	6106350202	D1 A2U	Taster	key
30	1	610651802	D1 G2S	Schwenktaster	swivel key
40	3	610670111	DA 11	Kontaktgeber	contact supplier
50	6	621129432	AKZ 4 KrG	Reihenklemme	terminal
60	1	621929442	AP KrG	Abschlussplatte	stop plate
70	2	621938286	EW 15	Endhalter	terminal clamp
80	1	677501511	TS 15	Tragschiene	mounting rail
100	1	605014496	144x96x82,5	Einschubgehäuse	flush type casing
101	1	605014497	138x90x2	Rückwand	rear plate
102	2	605072146	95mm B	Befestigungsspanne	threaded bolt
110	2	2002040081	M4x8	Zylinderschraube	cylinder screw
120	2	21034041	M4	Sechskantmutter	hexagon nut
130	2	211310041	A4,3	Scheibe	washer
140	1	678101101	Ø25/18/12x6,5	Kabeldurchführung	cable bushing
150	4	2050020081	M2x8	Senkschraube	countersunk scr.

*Bei Ersatzteilbestellung unbedingt **Seriennummer** angeben!*
*It is essential to state the **serial-no.** when ordering spare parts!*

Gong

500 EL

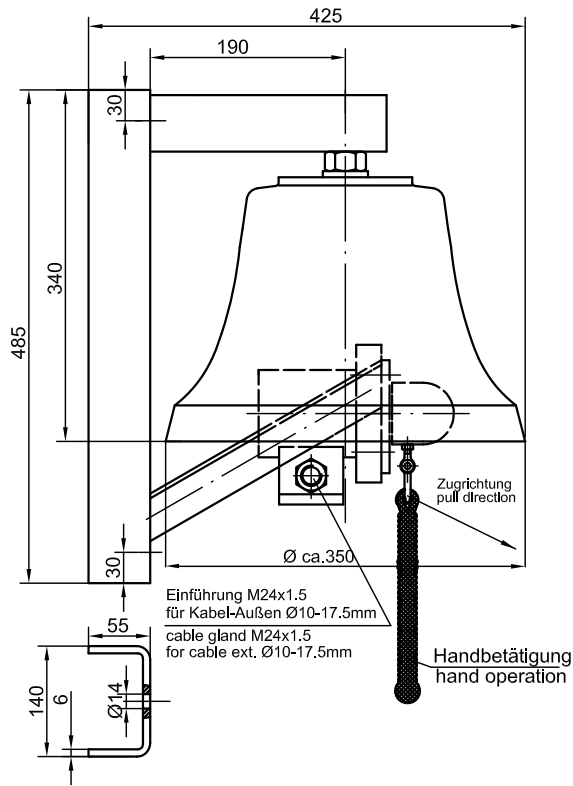


Glocke / Bell 350 EL elektromechanisch angetrieben
with elektro-mechanical drive

Gong 500 EL elektromechanisch angetrieben
with elektro-mechanical drive

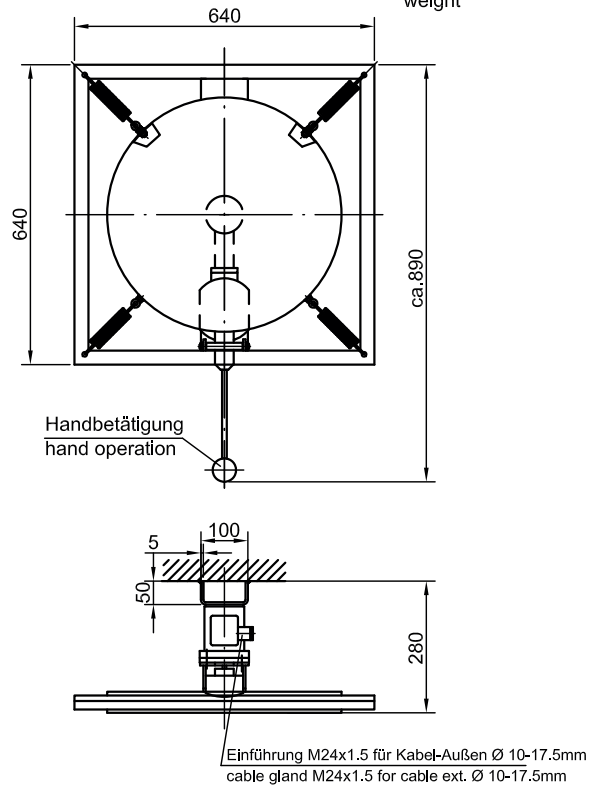
0144630

Gewicht: ca.32 kg
weight



0144538

Gewicht: ca.24 kg
weight

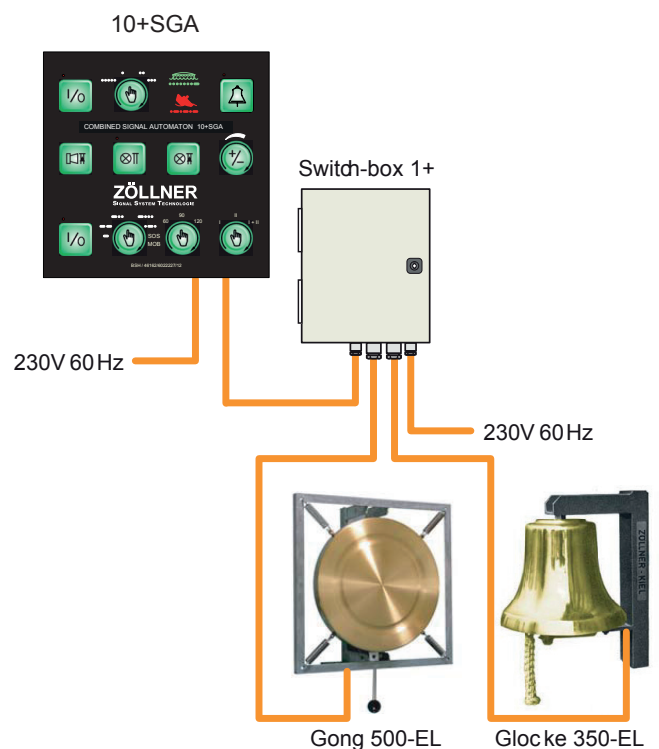
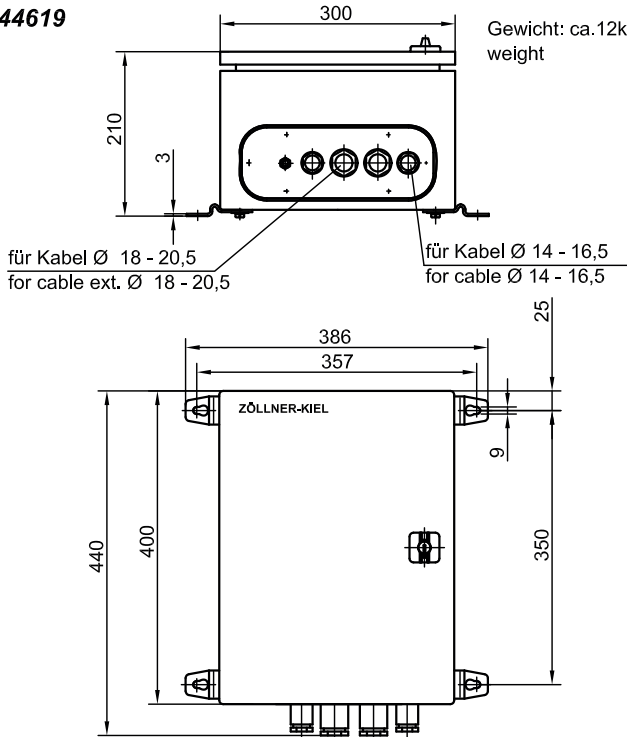


Schaltkasten für / switchbox for Automaton 1+
mit/ohne Stillstandsheizung / with/without space heating

connecting example

0144619

Gewicht: ca.12kg
weight



Kabelverschraubung nach DIN 89280 für MGCG-Kabel
cable gland according to DIN 89280 for MGCG cable

Automaton 10+SGA

General Features

The ZÖLLNER Signal Automaton 10+SGA is an automatic signal control for all ZÖLLNER whistles with electric signal release, for the electronic bell and gong system ZBG 110 and, in a modified version, for the electro-mechanical bell and gong system. It is programmed to release automatically the maneuvering and warning signals according to Rule 34 (a, b, d), Rule 35 (a, b, c, e, g) of the Colregs 1972, general emergency and abandon vessel alarm.

Essentials

- type approved by the BSH
- automatic and manual signal release
- sound and light signals
- ready for connection of one or two whistles, electronic bell and gong system, one maneuver signal lamp and separate push-buttonkeys
- signal intervals adjustable
- dimmer for key illumination

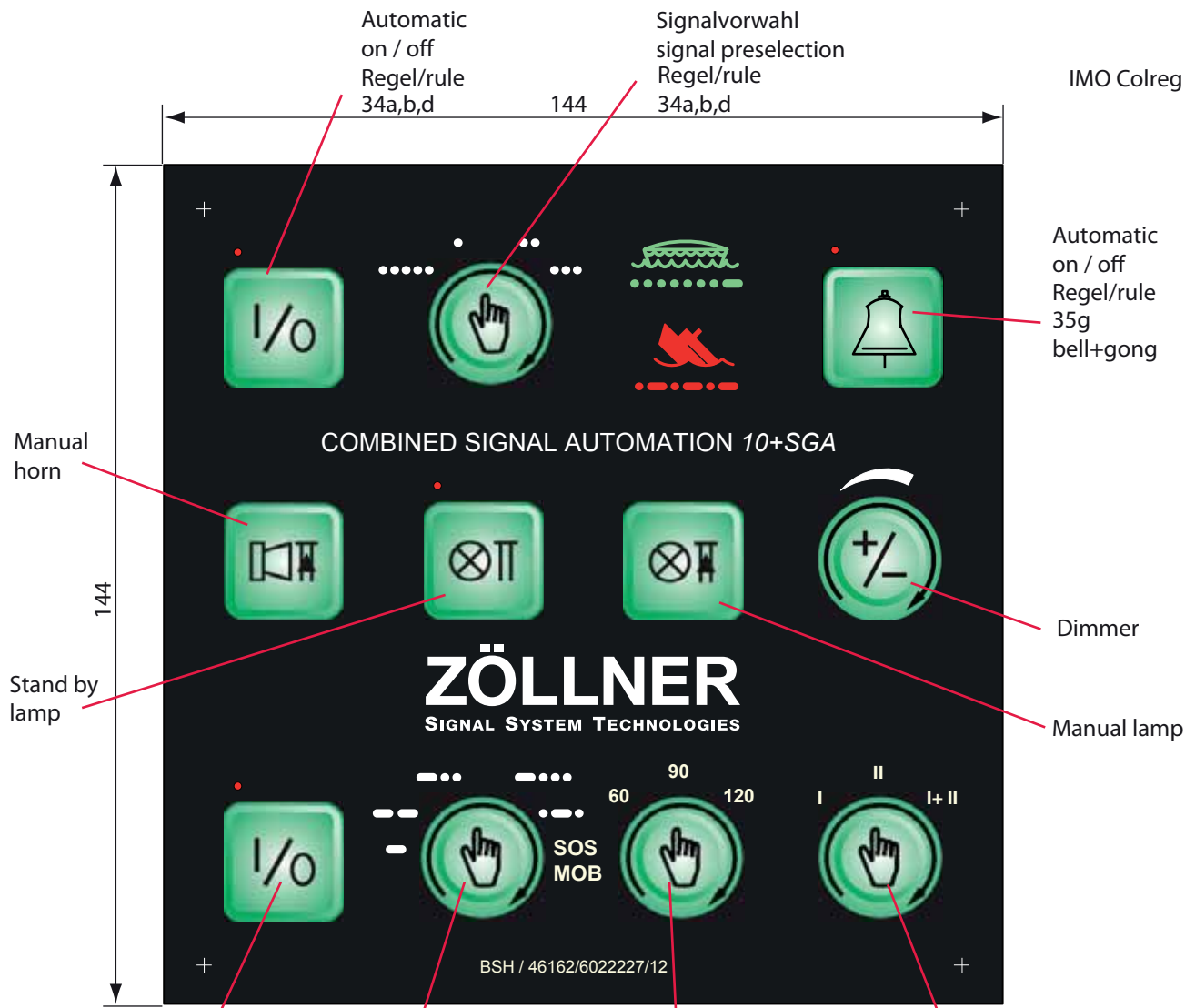


Advantages

- latest technical standard
- best material and workmanship
- made in Germany
- functional membrane keyboard
- self-explanatory symbols
- pluggable, therefore easy installation or repair
- maintenance-free

Installation

- in the center of the bridge console
- system voltage AC 1phase or 24 V DC
- no special tools required



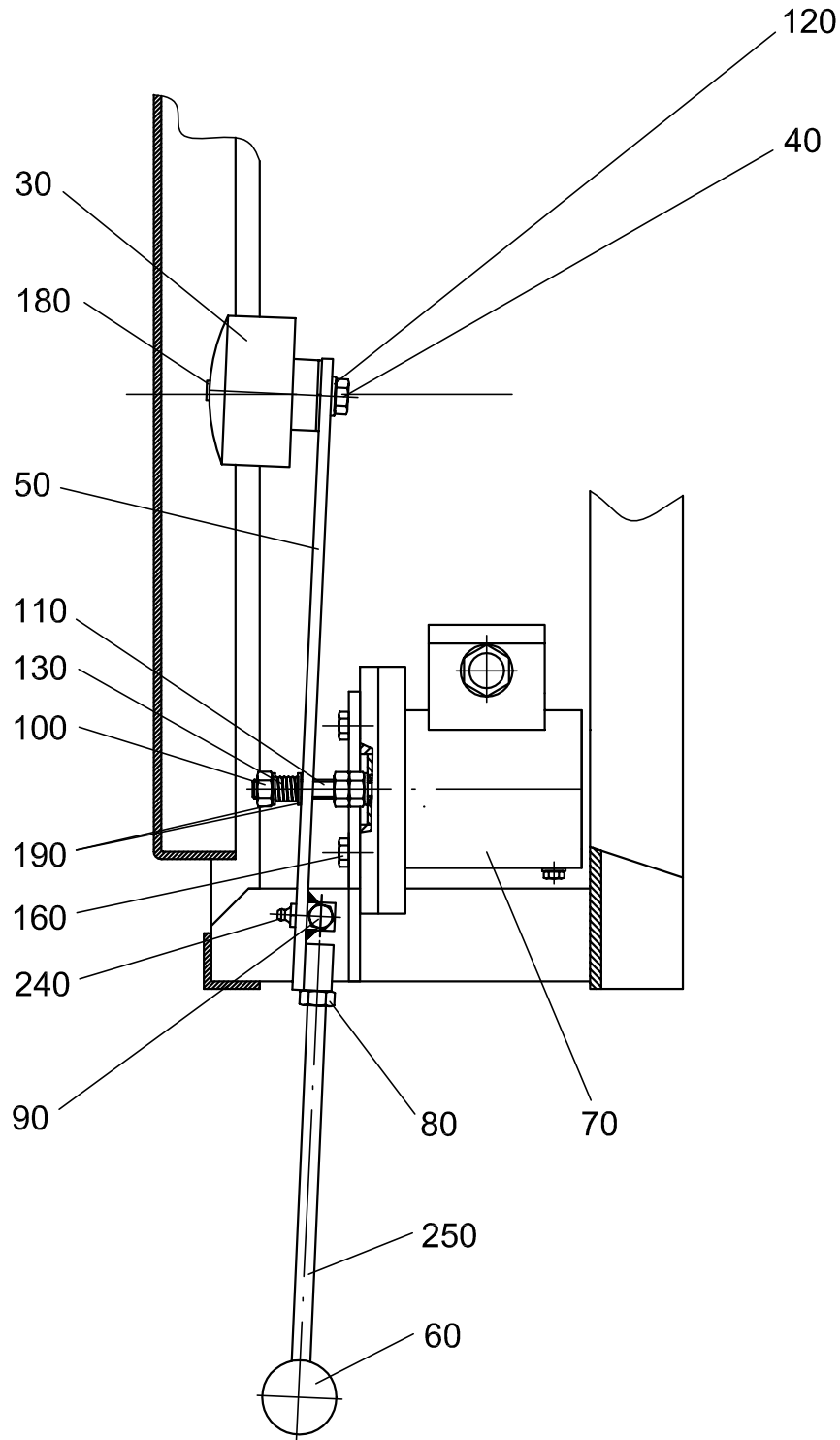
Automatic on / off Regel/rule 35a,b,c,e,g Signalvorwahl signal preselection Zeiteinstellung time set Pfeifenvorwahl whistle preselection

Einbauöffnung: cutout for installation: 139x139mm DIN 43700 Einbautiefe: plug in depth: 100mm

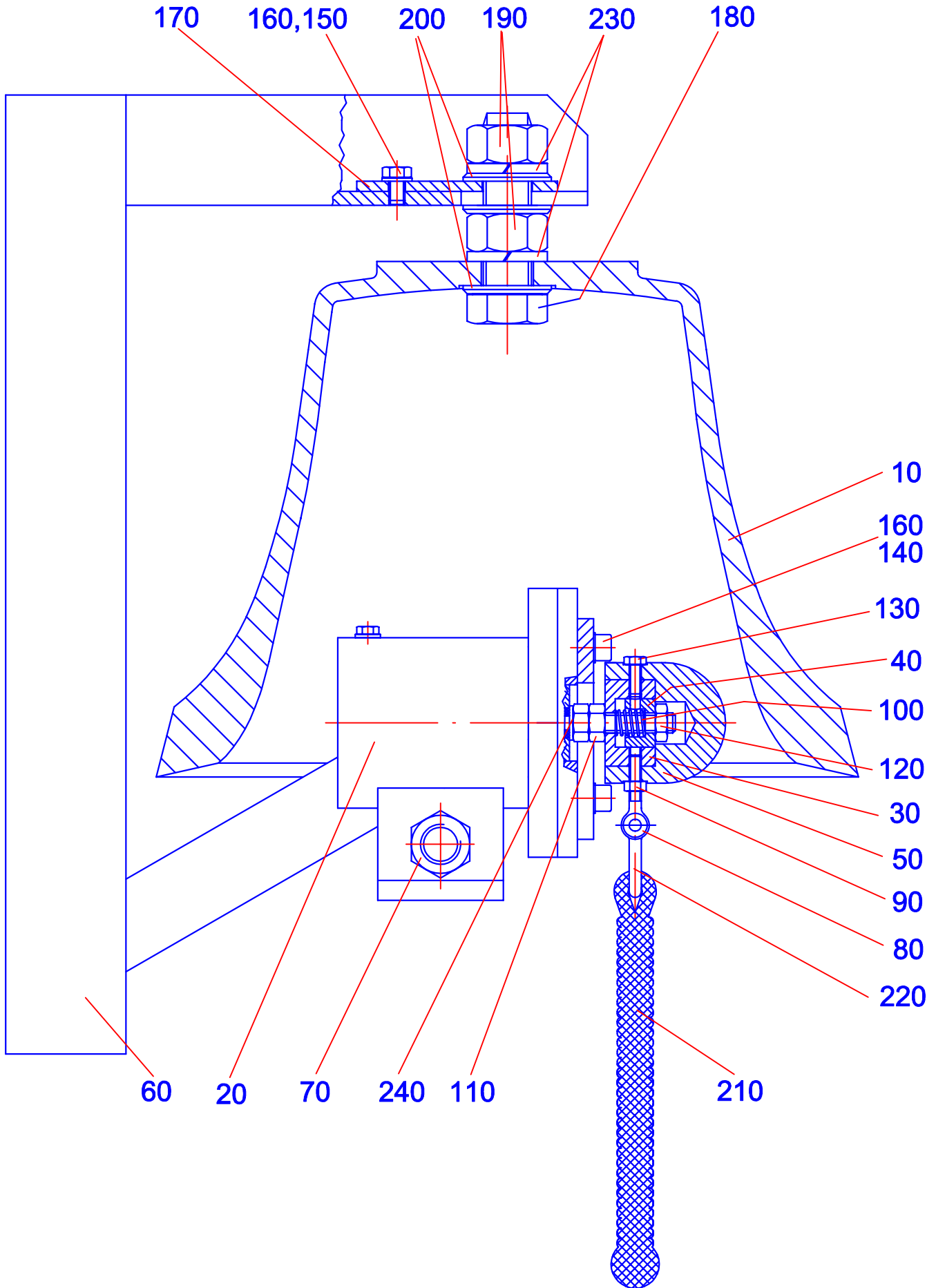
.....	•	••	•••	
Warnsignal attention	Steuerbord starboard	Backbord port	Rückwärts astern	Glocke/bell gong
-	- -	- ••	- •••	- •••
vessel making way through water	vessel making no way through water	vessel not under command, vessel restricted in her ability to maneuver, vessel engaged in fishing, or towing or pushing another vessel	vessel towed	vessel at anchor
Horn whistle	Licht light	Licht light STAND BY	general alarm	abandon ship

Pos. Item	Stck. Qty	Bestell-Nr. Order-No.	Techn. Daten Techn. Data	Bezeichnung	Designation
10	1	0104090	640x640x258	Halter	holder
20	1	883005000	∅ 500	Gong	gong
30	1	0104093	∅ 80 x 60	Klöppel	striker
40	1	2044100201	M 10x20	Sechskantschraube	hexagon screw
50	1	01046471	340x40	Hebel	lever
60	1	57004010	∅ 40	Kugelknopf	ball end of lever
70	1	883001000	200N/15mm	Gleichstrommagnet	DC magnet
90	3	21034101	M 10	Sechskantmutter	hexagon nut
91	1	21037101	VM 10	Sicherungsmutter	safety nut
100	1	2043081001	M 8x100	Sechskantschraube	hexagon screw
110	3	211100101	∅ 10,5	Scheibe	washer
120	2	01905942	M 8x77	Spannöse	stretching eye
121	2	2011080402	BM 8x40	Augenschraube	eye bolt
130	4	0104105	∅ 26,7	Zugfeder	traction spring
140	8	21034081	M 8	Sechskantmutter	hexagon nut
150	10	211100081	∅ 8,4	Scheibe	washer
169	2	2035080351	M 8x35	Zylinderschraube	cylinder screw
170	2	2035080301	M 8x30	Zylinderschraube	cylinder screw
171	4	211300081	8x14,8x2	Sicherungsscheibe	safety washer
172	1	211300101	10x18x2,2	Sicherungsscheibe	safety washer
190	1	677072415	M 24x1,5	Kabelverschraubung	cable gland
200	1	556154101	M 10x1	Schmiernippel	grease nipple
210	1	0104107	95x85	Pufferhalter	padholder
220	1	236316582	∅ 20x12	Anschlagpuffer	stop pad
230	1	2044060101	M 6x10	Sechskantschraube	hexagon screw
240	1	211300061	6x11,8x1,6	Sicherungsscheibe	safety washer
250	1	0104646	∅ M10x250	Gewindestange	tie rod
260	1	21034101	M 10	Sechskantmutter	hexagon nut
300	1	21037081	VM 8	Sicherungsmutter	safety nut

Complete set comprising lever and pressure magnet readily mounted
Bestell-Nr. / Order No. 01040946

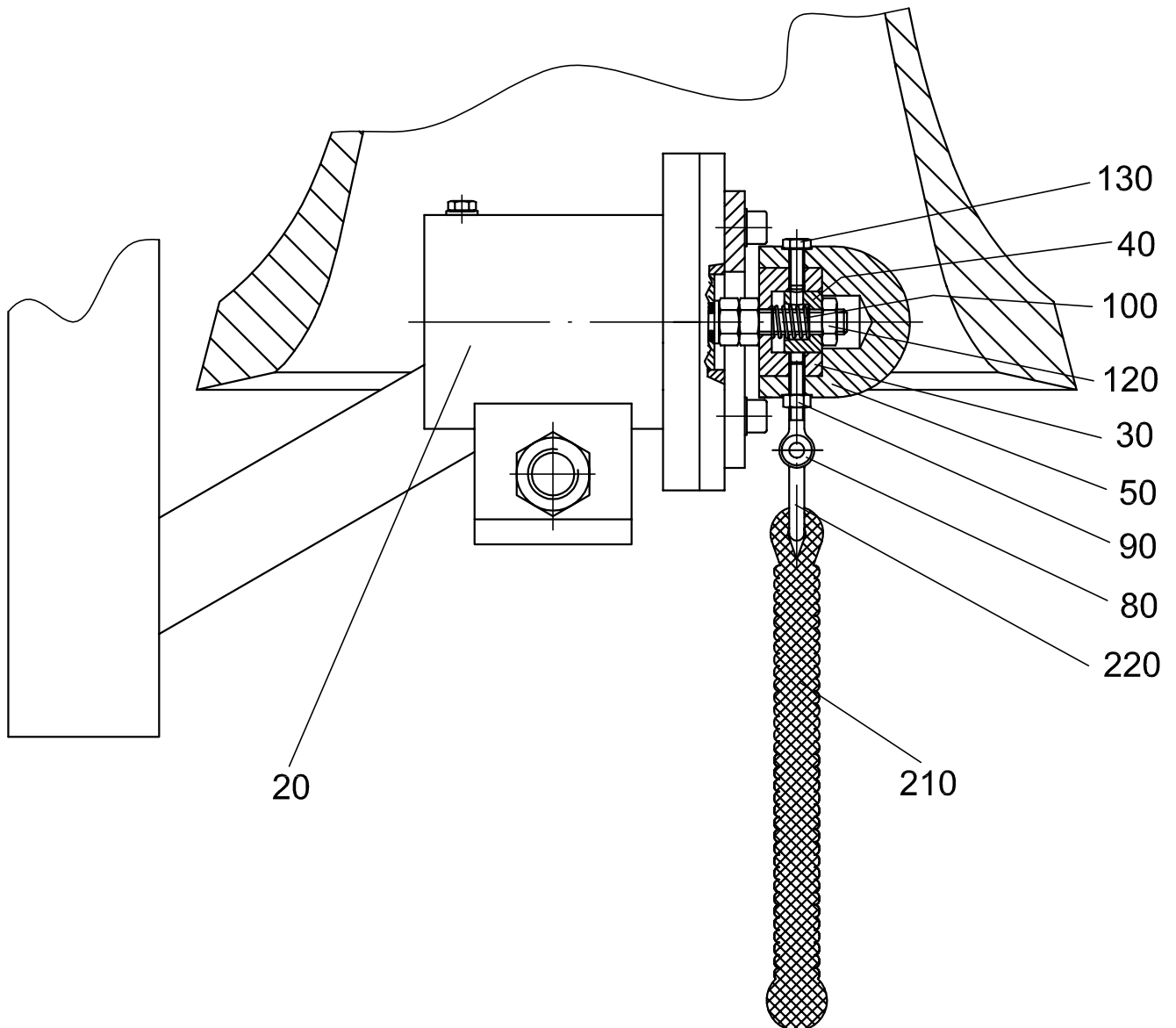


Pos. Item	Stck. Qty	Bestell-Nr. Order-No.	Techn. Daten Techn. Data	Bezeichnung	Designation
30	1	0104093	Ø 80 x 60	Klöppel	striker
40	1	2044100201	M 10x20	Sechskantschraube	hexagon screw
50	1	01046471	340x40	Hebel	lever
60	1	57004010	Ø 40	Kugelknopf	ball end of lever
70	1	883001000	200N/15mm	Gleichstrommagnet	DC magnet
80	1	21034101	M 10	Sechskantmutter	hexagon nut
90	1	21037081	VM 8	Sicherungsmutter	safety nut
100	1	21037101	VM 10	Sicherungsmutter	safety nut
110	1	2043081001	M 8x100	Sechskantschraube	hexagon screw
120	1	211100101	Ø 10,5	Scheibe	washer
130	1	0104184	Ø 12/1,3x28	Druckfeder	spring
160	4	2035080301	M 8x30	Zylinderschraube	cylinder screw
180	1	0102963	Ø16x18/M5x15,5	Linsenschraube	oval head screw
190	2	211100081	A 8,4	Scheibe	washer
220	1	211300101	10x18x2,2	Sperrkantring	detent egded ring
240	1	556154101	M 10x1	Schmiernippel	grease nipple
250	1	0104646	Ø M10x250	Gewindestange	tie rod

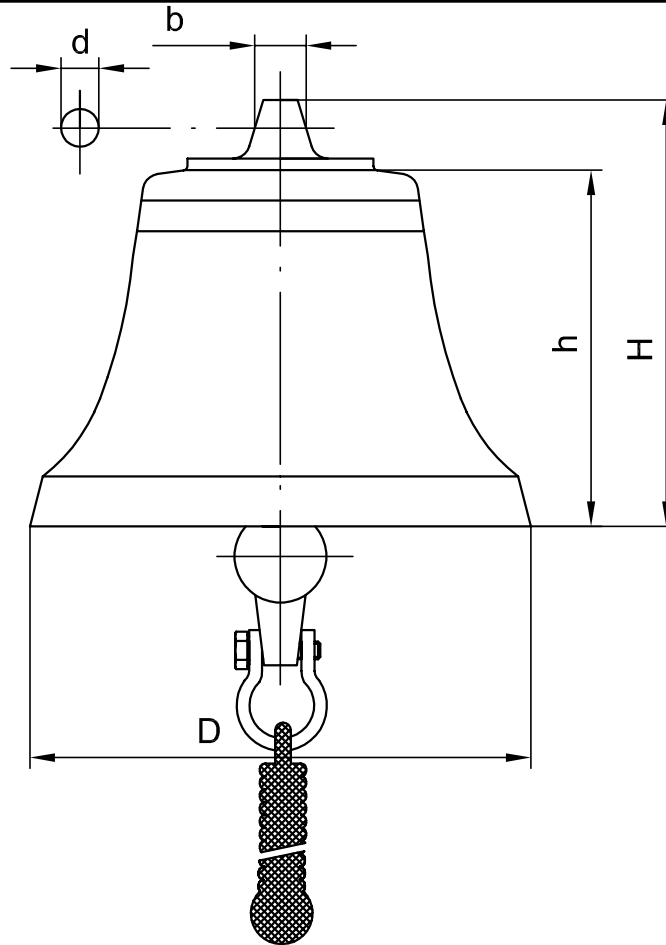


Pos. Item	Stck. Qty	Bestell-Nr. Order-No.	Techn. Daten Techn. Data	Bezeichnung	Designation
10	1	0105859	Ø 350	Glocke	bell
20	1	883001000	200N/15mm	Gleichstrommagnet	DC magnet
30	1	0104649	Ø 45 x 25	Klöppeleinsatz	striker insert
40	1	0104650	Ø 24 x 15	Spannbuchse	fixing bush
50	1	0104648	Ø 60 x 60	Klöppel	striker
60	1	0104641	485x285	Halter	holder
70	1	677072415	M 24x1,5	Kabelverschraubung	cable gland
80	1	2011060402	BM 6x40	Augenschraube	eye bolt
90	1	21034061	M 6	Sechskantmutter	hexagon nut
100	1	0103651	Ø 12 x 20	Druckfeder	pressure spring
110	2	21034101	M 10	Sechskantmutter	hexagon nut
120	1	21037101	VM 10	Sicherungsmutter	safety nut
130	1	2044060161	M 6x16	Sechskantschraube	hexagon screw
140	4	2035080301	M 8x30	Zylinderschraube	cylinder screw
150	1	2044080161	M 8x16	Sechskantschraube	hexagon screw
160	5	211300081	8x14,8x2	Sicherungsscheibe	safety washer
170	1	0104106	50x5x100	Sicherungsblech	safety plate
180	1	2044240901	M 24x90	Sechskantschraube	hexagon screw
190	2	21034241	M 24	Sechskantmutter	hexagon nut
200	3	211100251	B 25	Scheibe	washer
210	1	883003310	Ø 25x220	Glockenbändsel	bell rope
220	1	883003410	Ø 6 / W13	Schäkel	shackle
230	2	211120241	B 24	Federring	spring washer
240	1	211100101	A 10,5	Scheibe	washer

Complete set comprising clapper and pressure magnet readily mounted
Bestell-Nr. / Order No. 01046526



Pos. Item	Stck. Qty	Bestell-Nr. Order-No.	Techn. Daten Techn. Data	Bezeichnung	Designation
20	1	883001000	200N/15mm	Gleichstrommagnet	DC magnet
30	1	0104649	∅ 45 x 25	Klöppeleinsatz	striker insert
40	1	0104650	∅ 24 x 15	Spannbuchse	fixing bush
50	1	0104648	∅ 60 x 60	Klöppel	striker
80	1	2011060402	BM 6x40	Augenschraube	eye bolt
90	1	21034061	M 6	Sechskantmutter	hexagon nut
100	1	0103651	∅ 12 x 20	Druckfeder	pressure spring
120	1	21037101	VM 10	Sicherungsmutter	safety nut
130	1	2044060161	M 6x16	Sechskantschraube	hexagon screw
210	1	883003310	∅ 25x220	Glockenbändsel	bell rope
220	1	883003410	∅ 6 / W13	Schäkel	shackle



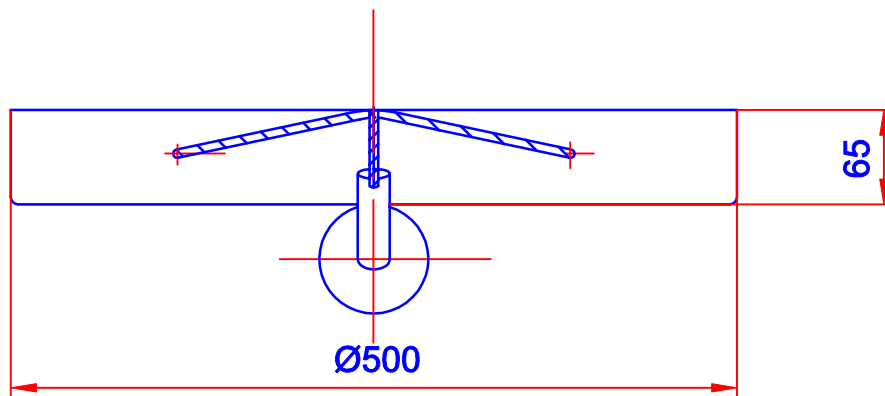
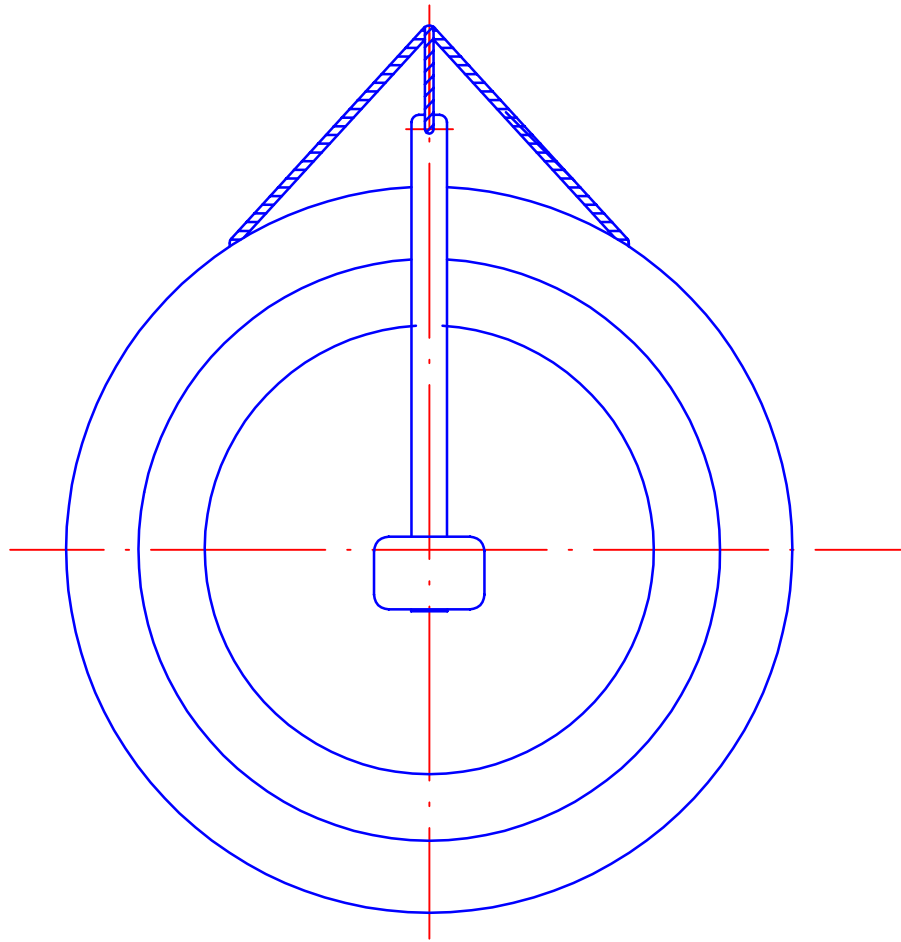
Maße/dimensions in mm	Länge des Fahrzeugs/length of vessel in m		
	12 bis/ up to 20 m	größer als/more than 20 m	
Ø D	200	300	350
d	11	13	16
H	205	300	340
h	ca. 155	ca. 230	ca. 260
b	10...20	25...30	50...65
Masse der Glocke/mass of bell	4 kg	16 kg	23 kg

Die Glocke entspricht Colreg 1972, Anhang III, 2(a) und (b), Schalldruckpegel 110 dB bei 1 m Abstand. Für Fahrzeuge mit einer Länge von 100 m und mehr ist zusätzlich ein Gong auf dem Achterschiff erforderlich. Die Abmessungen des Gongs entnehmen Sie bitte der Zeichnung 0144599.

The bell is in accordance with the Colregs 1972, Annex III, 2 (a) and (b) sound pressure level 110 dB at 1 m distance. Vessels of 100 m or more in length must, in addition, be provided with a gong installed on the aftship. For dimensions of the gong please see drawing 4599.

Der Gong entspricht Colreg 1972, Annex III, 2(a) und (b), Schalldruckpegel 110 dB(A) bei 1 m Abstand. Er ist für Fahrzeuge von 100 m und mehr erforderlich.

The gong is in accordance with the Colregs 1972, Annex III, 2 (a) and (b), sound pressure level 110 dB(A) at 1 m distance. It is required for vessels of 100 m or more in length.



Der Gong entspricht Colreg 1972, Annex III, 2 (a) und (b), Schalldruckpegel 110 db(A) bei 1 m Abstand. Er ist für Fahrzeuge von 100 m und mehr erforderlich.

The gong is in accordance with the Colreg 1972, Annex III, 2 (a) and (b), sound pressure level 110 db(A) at 1 m distance. It is required for vessels of 100 m or more in length.