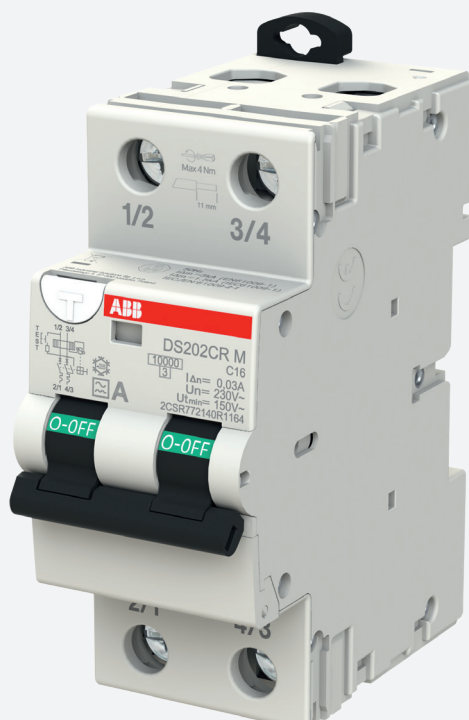


RESIDUAL CURRENT DEVICES

# DS202CR for marine applications

RCBO protecting 2 phases  
in only 2 modules



- RCBO 2P in 2M
- DTI on window to identify earth fault trips
- For connection with cables up to 35mm<sup>2</sup>
- 10kA breaking capacity up to 40A

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**DS202CR RCBO series combines overcurrent (short circuit and overload) and earth fault protection in 2 protected poles: it is particularly suitable in low voltage systems connected to the 230 V two-phase distribution network, such as naval applications, where it is particularly appreciated for its small size in the final distribution systems.**

**It is also used in IT network systems where the neutral is not distributed for the protection of single-phase appliances powered with 400/230 V transformers. DS202CR, 2 poles protected in 2 modules, can be used in large industrial plants, residential applications, mobile and also old installations where the neutral cable is not always clearly identified, providing an error-proof solution.**

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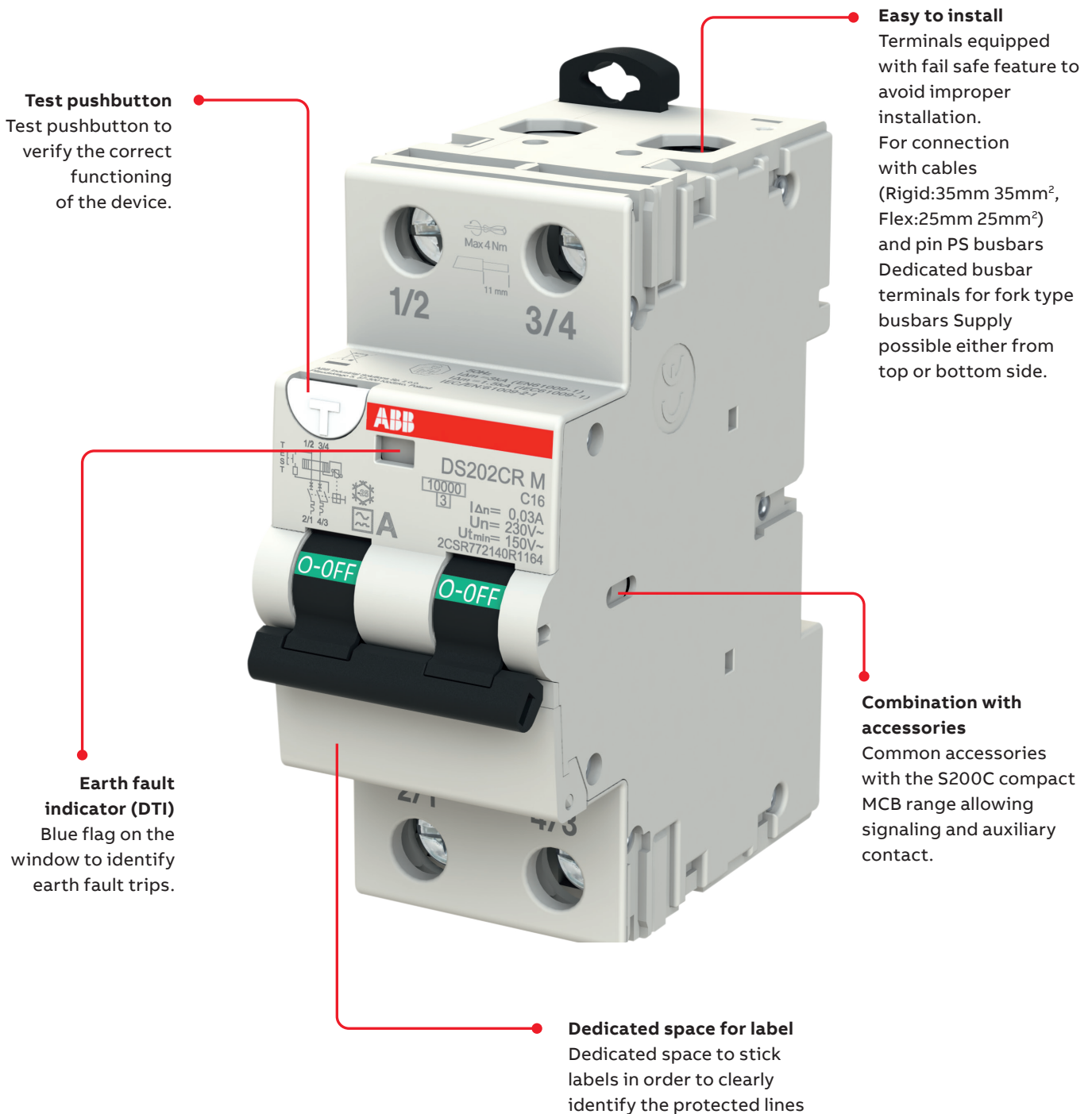
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## DS202CR for marine applications

The details make the difference.

A new range designed to ensure efficiency and protection.







Specializing in low - and medium - voltage systems for cruise and off-shore vessels, ABB is constantly bringing innovative technology to market. ABB products and systems deliver better energy efficiency, better use of space, effective automation, greater safety and improved comfort.



## DS202CR for marine applications

### Technical datasheet

		DS202CR M		DS202CR M 110V
Standards		IEC/EN 61009-1; IEC/EN 61009-2-1		
Electrical features	Type (wave form of the earth leakage sensed)	A	A	
	Number of poles	2P	2P	
	Rated current $I_n$	A	$6 \leq I_n \leq 40$	$6 \leq I_n \leq 40$
	Rated sensitivity $I_{\Delta n}$	A	0.03	0.03
	Rated voltage $U_e$	V	230	110
	Insulation voltage $U_i$	V	440	440
	Overvoltage category		III	III
	Pollution degree		3	3
	Operating voltage of circuit test $U_t$	V	150	93-135
	Rated frequency	Hz	50/60	50/60
	Rated breaking capacity acc. to IEC/EN 61009-1	$I_{cn}$	A	10000
	Rated breaking capacity acc. to IEC/EN 60947-2 (only referring to short circuit test)	ultimate $I_{cu}$	kA	10
		service $I_{cs}$	kA	7.5
	Rated residual breaking capacity $I_{\Delta m}$ (EN 61009-1)	kA	3	3
	Rated impulse withstand voltage (1.2/50) $U_{imp}$	kV	4	4
	Dielectric test voltage at ind. freq. for 1 min.	kV	2.5	2.5
	Thermomagnetic release characteristic		B, C	C
	Surge current resistance (wave 8/20)	A	250	
Mechanical features	Toggle		black sealable in ON-OFF position	
	Contact position indication		CPI on toggle (green/red)	
	Earth fault trip indication		on window (blue)	
	Electrical life	ops.	10000	10000
	Mechanical life	ops.	20000	20000
	Protection degree acc. to EN 60529	housing	IP4X	IP4X
		terminals	IP2X	IP2X
	Environmental conditions (damp heat) acc. to IEC/EN 60068-2-30	°C/RH	28 cycles with 55°C/90-96% and 25°C/95-100%	
	Reference temperature for setting of thermal element	°C	30	30
	Ambient temperature (with daily average $\leq +35$ °C)	°C	-25...+55	-25...+55
	Storage temperature	°C	-40...+70	-40...+70
Installation	Terminal type	top	failsafe cage terminal	
		bottom	failsafe cage terminal	
	Terminal size top/bottom for cables	mm <sup>2</sup>	25/25 flexible; 35/35 rigid	25/25 flexible; 35/35 rigid
	Terminal size top/bottom for busbar	mm <sup>2</sup>	10/10	10/10
	Tightening torque top/bottom	Nm	4	4
	Mounting		on DIN rail EN 60715 (35 mm) by means of fast clip device	
	Mounting position		Any	Any
Dimensions and weight	Connection		from top and bottom	from top and bottom
	Dimensions (H x D x W)	mm	86 x 72 x 36	86 x 72 x 36
	Weight	g	220	220
Combination with auxiliary elements	Combinable with:	auxiliary contact	yes	yes
		signal contact / auxiliary contact	yes	yes

## DS202CR for marine applications

### Ordering codes



DS202CR M 110V

#### DS202CR M 110V A type, C characteristic

Function: protection of end user single-phase circuits against overload and short-circuit currents; protection against the effects of sinusoidal alternating and direct pulsating earth fault currents; protection against indirect contact and additional protection against direct contact ( $I\Delta n = 30 \text{ mA}$ ).

This particular series of devices has the minimum operating voltage of test button of 93V and it is suitable for 110 V applications.

**Application: residential, commercial, industrial, marine.**

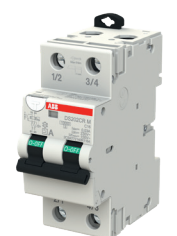
**Standard: IEC/EN 61009-1; IEC/EN 61009-2-1**

**$I_{cn} = 10\,000 \text{ A}$**

Number of poles	Rated residual current $I\Delta n \text{ mA}$	Rated current $I_n \text{ A}$	Bbn 402290 EAN	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
				Type code	Order code			
2	30	6	3035060	DS202CRM C6 A30 110V	2CSR772199R1064		0,245	1
		10	3035077	DS202CRM C10 A30 110V	2CSR772199R1104		0,245	1
		13	3035084	DS202CRM C13 A30 110V	2CSR772199R1134		0,245	1
		15	3035091	DS202CRM C15 A30 110V	2CSR772199R1154		0,245	1
		16	3035107	DS202CRM C16 A30 110V	2CSR772199R1164		0,245	1
		20	3035114	DS202CRM C20 A30 110V	2CSR772199R1204		0,245	1
		25	3035121	DS202CRM C25 A30 110V	2CSR772199R1254		0,245	1
		32	3035138	DS202CRM C32 A30 110V	2CSR772199R1324		0,245	1
		40	3035145	DS202CRM C40 A30 110V	2CSR772199R1404		0,245	1

## DS202CR for marine applications

### Ordering codes



DS202CR M 50/60

#### DS202CR M 50/60Hz A type, B characteristic

Function: protection of end user single-phase circuits against overload and short-circuit currents; protection against the effects of sinusoidal alternating and direct pulsating earth fault currents; protection against indirect contact and additional protection against direct contact ( $I\Delta n = 30 \text{ mA}$ ).

This particular series of devices has 50/60Hz dual frequency compatibility.

**Application: marine.**

**Standard: IEC/EN 61009-1; IEC/EN 61009-2-1**

**$I_{cn} = 10\,000 \text{ A}$**

Number of poles	Rated residual current $I\Delta n \text{ mA}$	Rated current $I_n \text{ A}$	Bbn 402290 EAN	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
				Type code	Order code			
2	30	6	3034902	DS202CRM B6 A30 50/60	2CSR772198R1065		0,245	1
		10	3034926	DS202CRM B10 A30 50/60	2CSR772198R1105		0,245	1
		13	3034940	DS202CRM B13 A30 50/60	2CSR772198R1135		0,245	1
		16	3034971	DS202CRM B16 A30 50/60	2CSR772198R1165		0,245	1
		20	3034995	DS202CRM B20 A30 50/60	2CSR772198R1205		0,245	1
		25	3035015	DS202CRM B25 A30 50/60	2CSR772198R1255		0,245	1
		32	3035039	DS202CRM B32 A30 50/60	2CSR772198R1325		0,245	1
		40	3035053	DS202CRM B40 A30 50/60	2CSR772198R1405		0,245	1



## DS202CR for marine applications

### Ordering codes



DS202CR M 50/60

#### DS202CR M 50/60Hz A type, C characteristic

Function: protection of end user single-phase circuits against overload and short-circuit currents; protection against the effects of sinusoidal alternating and direct pulsating earth fault currents; protection against indirect contact and additional protection against direct contact ( $I_{\Delta n} = 30 \text{ mA}$ ).

This particular series of devices has 50/60Hz dual frequency compatibility.

**Application:** marine.

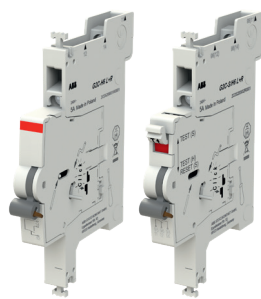
**Standard:** IEC/EN 61009-1; IEC/EN 61009-2-1

**$I_{cn} = 10\,000 \text{ A}$**

Number of poles	Rated residual current $I_{\Delta n} \text{ mA}$	Rated current $I_n \text{ A}$	Bbn 402290 EAN	Order details		Price 1 piece	Weight 1 piece kg	Pack unit pc.
				Type code	Order code			
2	30	6	3034896	DS202CRM C6 A30 50/60	2CSR772198R1064		0,245	1
		10	3034919	DS202CRM C10 A30 50/60	2CSR772198R1104		0,245	1
		13	3034933	DS202CRM C13 A30 50/60	2CSR772198R1134		0,245	1
		16	3034964	DS202CRM C16 A30 50/60	2CSR772198R1164		0,245	1
		20	3034988	DS202CRM C20 A30 50/60	2CSR772198R1204		0,245	1
		25	3035008	DS202CRM C25 A30 50/60	2CSR772198R1254		0,245	1
		32	3035022	DS202CRM C32 A30 50/60	2CSR772198R1324		0,245	1
		40	3035046	DS202CRM C40 A30 50/60	2CSR772198R1404		0,245	1

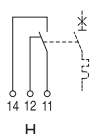
## DS202CR for marine applications

### Accessories

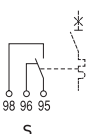


G2C

G2C-S



H



S

#### G2C: Auxiliary and signal contact

##### Auxiliary (H):

Provides the status of the protection device, OPEN/CLOSED.

##### Auxiliary or signal (S/H):

This device can act as an auxiliary contact (function H) or as a signal contact (function S).

The user can change the function at the moment of installation.

Used as signal contact (function S) it provides the information about the automatic tripping of the protection devices: overload or short-circuit for MCBs, earth leakage tripping for RCDs.

- Test button on the front to simulate the function (acting as a function H or S)
- Reset button for the contacts (function S)
- Tripping signal on the front (function S)
- Version with golden contacts, available for low current as well as low voltage applications.

#### Mounting:

on the left or right, up to 4 G2C units

### Performances

Product standard	IEC/EN 62019
Change-over contacts	1
Rated current $I_n$ (A)	5
Rated voltage AC $U_n$ (V)	240
Minimum application voltage	24 V AC/DC; 12 V AC/DC for version with golden contacts
Minimum application current	10 mA AC; 200 mA DC -- 2 mA AC; 25 mA DC for version with golden contacts
Electrical endurance (operations)	10000
Terminal capacity flexible/rigid cable (mm <sup>2</sup> )	0.75...2.5 / 1...2.5
Terminal capacity for two rigid cables (mm <sup>2</sup> )	2 × 1.5
Dimension [D×W×H] (mm)	69 × 8.7 × 92
Net weight (g)	70
Tightening torque (Nm)	0.5

### Ordering code

Type	EAN	Order details		Weight 1 piece kg	Pack unit pc.
		Type code	Order code		
Auxiliary (H)	4053546046427	G2C-H6 L+R	2CDS200931R0001	0.07	1
Auxiliary or signal (S/H)	4053546046434	G2C-S/H6 L+R	2CDS200932R0001	0.07	1
Auxiliary or signal golden contact (S/H G)	4053546046441	G2C-S/H6 L+R KL	2CDS200932R0011	0.07	1

## DS202CR for marine applications

### Busbars

#### Busbars available for the connection with DS202CR series

##### Busbars

No. of Pins	Phases	mm <sup>2</sup>	Bbn 405354	Order details		Weight 1 piece	Pack unit
				EAN	Type code	Order code	
12	2	10	6054347	BR-S2/12/10	2CDL824001R1012	0,026	10
56	2	16	6054361	BR-S2/56/16	2CDL824001R1656	0,241	20
10	2	10	6054323	BR-S2/10/10H	2CDL824001R1010	0,026	10
46	2	16	6054354	BR-S2/46/16H	2CDL824001R1646	0,241	20
12	4	10	6054453	BR-S4/12/10	2CDL844001R1012	0,026	5
54	4	10	6054460	BR-S4/54/10	2CDL844001R1054	0,241	15
54	4	16	6054477	BR-S4/54/16	2CDL844001R1654	0,241	15

##### End Caps

No. of Pins	Phases	mm <sup>2</sup>	Bbn 405354	Order details		Weight 1 piece	Pack unit
				EAN	Type code	Order code	
		10/16	6046717	BB-END 2.1	2CDL800001R0021	0,001	10
		16	6046731	BB-END 3.2	2CDL800001R0030	0,001	10
		10/16	6046823	BB-END 4.1	2CDL800001R0040	0,001	10

##### Feeder terminal

No. of Pins	Phases	mm <sup>2</sup>	Bbn 405354	Order details		Weight 1 piece	Pack unit
				EAN	Type code	Order code	
		25	6062366	BR-FS 25/14	2CDL800001R2514	0,018	30

##### Schock protection caps

No. of Pins	Phases	mm <sup>2</sup>	Bbn 405354	Order details		Weight 1 piece	Pack unit
				EAN	Type code	Order code	
			6062403	BR-BS	2CDL800001R0051	0,018	10

## DS202CR for marine applications

### Additional technical features

#### Power loss

$I_n$ (A)	2P (W)
6	3.0
10	3.3
13	3.8
15	3.9
16	4.2
20	5.0
25	6.2
32	7.6
40	8.9

#### Influent of adjacent devices

Number of devices	K
2 or 3	0.9
4 or 5	0.8
6 to 9	0.7
> 10	0.6

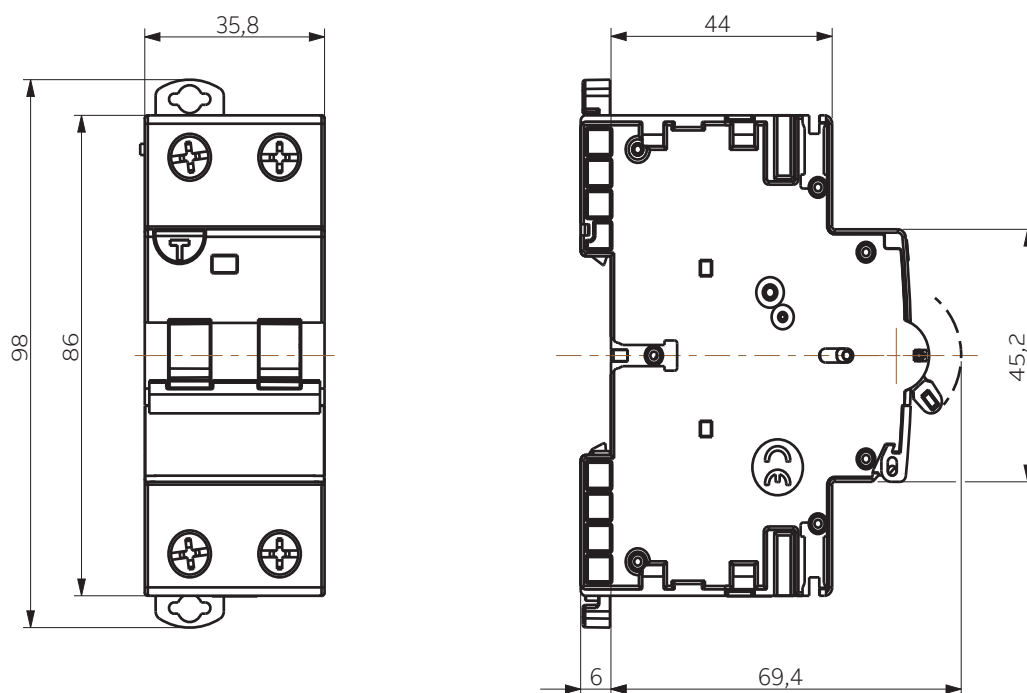


## DS202CR for marine applications

### Dimensions

#### Overall dimensions

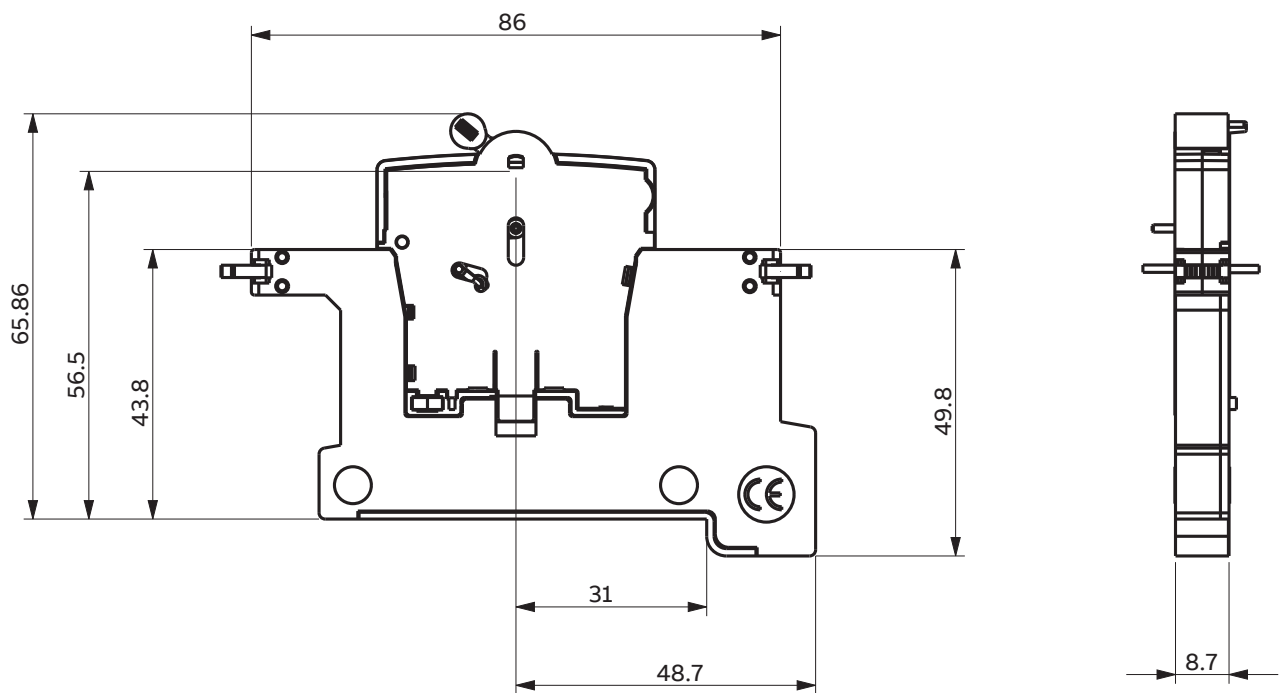
All measurements in mm



## DS202CR for marine applications

### Dimensions of G2C Accessories

#### Auxiliary contact



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**ABB Group**

Electrification business

Smart Buildings business line

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