MESSKO® MPreC®

Pressure Relief Device

Technical data



Product variants

	would like to place and	order, please	detailed information about the e use the MESSKO inquiry an hausen.com below the respec	d order specification, w		
_	Protective cover with powder coating					
2	2 Standard protective cover RAL 7033 (cement gray)			rav)		
				RAL 7038 (agate gray)		
	Protective cover with directed oil flow (OD cover)		RAL 7033 (cement g			
MGA .			,	RAL 7038 (agate gra		
	Optional:		6 Vent screw			
	1		Semaphore (not for off- shore applications)	1 – OPERATION pos 2 – ALARM position	sition	
3			Offshore model (only for OE	O cover)		
	Triggering pressure		PSI	Bar	kPa	
	LMPRD 04		4 PSI ± 1	0.28 bar	28 kPa	
3	LMPRD 05		5 PSI ± 1	0.35 bar	35 kPa	
	LMPRD 06		6 PSI ± 1	0.41 bar	41 kPa	
4	LMPRD 08		8 PSI ± 1	0.55 bar	55 kPa	
	LMPRD 10		10 PSI ± 1	0.69 bar	69 kPa	
	LMPRD 12		12 PSI ± 1	0.83 bar	83 kPa	
	LMPRD 15		15 PSI ± 2	1.03 bar	103 kPa	
5	LMPRD 20		20 PSI ± 2	1.38 bar	138 kPa	
9	LMPRD 25		25 PSI ± 2	1.72 bar	172 kPa	
	LMPRD 30		30 PSI ± 2	2.07 bar	207 kPa	
6	4 Spring assembly; LMPRD = Large MESSKO® Pressure Relief Device					
	Electrical connection					
	No micro-switch		Vertical plate without hole for screw-type blank cap for OI			
7	Connection via cable screw connections		3 1 micro-switch	1 x M20 x 1.5 cable screw connection; 1 x M20 x 1.5 dummy plug		
			3 2 micro-switches	2 x M20 x 1.5 cable screw connection		
8	ANSI plug		3 1 or 2 micro-switches			
	Westinghouse plug Connection box		3 1 micro-switch	with or without ground connection		
			3 2 micro-switches	without ground connection		
			3 1 micro-switch	1 x M25 x 1.5		
			3 2 micro-switches	2 x M25 x 1,5		
	Further connections possible by request (e.g. NPT)					
	Sealing material		Coolant	Remark		
	5 NBR sealing lip (state equipment)	andard	Mineral oil	1 Signal pin = red (a	anodized)	
$\begin{array}{c} 2 \\ 10 \end{array}$	5 Viton sealing lip		Silicone oil, pyranol	1 Signal pin = blue (anodized)	
	7 Mounting seal ring	NBR	Mineral oil	Order No.: 50032703	<u> </u>	
	(optional)	Viton	Silicone oil, pyranol	Order No.: 73314900)	
		Without mo	ounting seal ring			
	Degree of protection	n				
1	IP 65					
	IP 66, available for		Standard protective cover w	vith cable screw connec	ction	
	•		OD cover with cable screw			

OD cover with connection box



Technical data

Ambient temperature 40 °C80 °C Oil 30 °C120 °C Storage temperature 40 °C80 °C Oil 30 °C120 °C Degree of protection Pe 65 in accordance with nach IEC 60 529 Optional P66 in accordance with nach IEC 60 529 for - Standard protective cover with acide screw connection - Cover with directed oil flow with screwed cable screw connection - Cover with directed oil flow with screwed cable screw connection - Cover with directed oil flow with screwed cable screw connection - Cover with directed oil flow with connection box General MESSKO® MPreC® Materials Flange Seawater-proof aluminum casting Standard protective cover Seawater-proof aluminum casting with powder coating RAL 7033 or RAL 7038; sealing lip (NBR) included in the scope of delivery Stanless steel Mounting seal ring (optional) NBR or Viton, depending on the coolant Springs Spring steel in accordance with EN 10270-1 SH, synthetically coated (cathodic corrosion protection) Semaphore Corrosion-resistant steel with powder coating RAL 1026, luminous yellow (not suitable for offshore applications) Vent screw Self-accurring, stainless steel, SW 10 Optionally available without vent screw Dimensions Fastening 2 235 mm [@ 9.25] bott circle of the 6 holes 0 15.5 mm (@ 0.61*) Protective cover	Operating conditions	MESSKO® MPreC®
Oil Storage temperature 40° C+80 ° C Degree of protection IP 65 in accordance with nach IEC 60 529 for Storage temperature Degree of protection IP 65 in accordance with nach IEC 60 529 for Standard protective cover with diected oil flow with screws connection - Cover with directed oil flow with screws cable screw connection - Cover with directed oil flow with screwed cable screw connection - Cover with directed oil flow with connection box General MESSKO® MPreC® Materials Seawater-proof aluminum casting Standard protective cover Seawater-proof aluminum with powder coating RAL 7033 or RAL 7038; sealing lip (NBR) in cluded in the scope of delivery Valve plate Stainless steel Mounting seal ring (optional) NBR or Viton Sealing lip NBR or Viton NBR or Viton Semaphore Spring steel in accordance with EN 10270-1 SH, synthetically coated (cathodic corrosion protection) Signal pin Seawater-proof aluminum; red (anodized) for standard sealing lip (NBR); blue (anodized) for Viton Corrosion-resistant steel with powder coating RAL 1026, luminous yellow (not suitable for offshore applications) Vent screw Self-securing: stainless steel; SW1 10 Optionally available without vent screw Dimensions Fastening Ø 235 mm [Ø 9.25"] bibt circle of the 6 holes Ø 15.5 mm (Ø 0.61") Fastening <		
Storage temperature	<u> </u>	
Degree of protection IP 65 in accordance with nach IEC 60 529		
Optional IP86 in accordance with IEC 60 529 for Standard protective cover with directed oil flow with screwed cable screw connection Cover with directed oil flow with screwed cable screw connection Cover with directed oil flow with screwed cable screw connection Cover with directed oil flow with screwed cable screw connection Cover with directed oil flow with screwed cable screw connection Cover with directed oil flow with connection box Cover for directed oil flow with screwed cabling RAL 7033 or RAL 7038 Seawlare-proof aluminum casting with powder coating RAL 7033 or RAL 7038; sealing lip (NBR) included in the scope of delivery Stanless steel Mounting seal ring (optional) NBR or Vition Seawlare-proof aluminum casting with powder coating RAL 7033 or RAL 7038; sealing lip (NBR) included in the scope of delivery Stanless steel Stanless steel Stanless steel Stanless steel Stanless steel Stanless		
Seawater-proof aluminum casting	Degree of protection	Optional IP66 in accordance with IEC 60 529 for – Standard protective cover with cable screw connection – Cover with directed oil flow with screwed cable screw connection
Seawater-proof aluminum casting	General	MESSKO® MPreC®
Standard protective cover Seawater-proof aluminum with powder coating RAL 7033 or RAL 7038 Seawater-proof aluminum casting with powder coating RAL 7033 or RAL 7038; sealing lip (NBR) included in the scope of delivery	Materials	
Protective cover for directed oil flow included in the scope of delivery Valve plate Stainless steel Mounting seal ring (optional) NBR or Viton Sealing lip NBR or Viton Sealing lip NBR or Viton Springs Springs steel in accordance with EN 10270-1 SH, synthetically coated (cathodic corrosion protection) Signal pin Seawater-proof aluminum; red (anodized) for standard sealing lip (NBR); blue (anodized) for Viton Semaphore Corrosion-resistant steel with powder coating RAL 1026, luminous yellow (not suitable for offshore applications) Vent screw Self-securing; stainless steel; SW 10 Optionally available without vent screw Dimensions Fastening Ø 235 mm [Ø 9.25"] bolt circle of the 6 holes Ø 15.5 mm (Ø 0.61") Protective cover Ø 291 mm [Ø 11.46"] standard protective cover Ø 291 mm [Ø 11.46"] standard protective cover without semaphore Max. 340 mm [13.39"] standard protective cover with semaphore Max. 340 mm [13.39"] standard protective cover with semaphore Max. 340 mm [13.39"] standard protective cover with semaphore Max. 34c mm [9.96"] cover with directed oil flow without semaphore Max. 34c mm [9.96"] cover with directed oil flow without semaphore Max. 34cm mm [14.86"] cover with directed oil flow with semaphore Mounting seal ring Optionally available, Ø 200 mm x Ø 178.5 mm x 4.25 mm [Ø 7.87" x Ø 7.03" x 0.17"], NBR or Viton Connection cable length for plug variant Plant Self Self Self Self Self Self Self Self	Flange	Seawater-proof aluminum casting
Included in the scope of delivery	Standard protective cover	Seawater-proof aluminum with powder coating RAL 7033 or RAL 7038
Mounting seal ring (optional) NBR or Viton		
Sealing lip NBR or Viton, depending on the coolant	Valve plate	Stainless steel
Springs Spring steel in accordance with EN 10270-1 SH, synthetically coated (cathodic corrosion protection) Signal pin Seawater-proof aluminum; red (anodized) for standard sealing lip (NBR); blue (anodized) for Viton Corrosion-resistant steel with powder coating RAL 1026, luminous yellow (not suitable for offshore applications) Vent screw Self-securing; stainless steel; SW 10 Optionally available without vent screw Dimensions Fastening Ø 235 mm [Ø 9.25"] bolt circle of the 6 holes Ø 15.5 mm (Ø 0.61") Protective cover Ø 295 mm [Ø 11.61"] cover with directed oil flow Height (in triggered state) Max. 234.5 mm [9.33"] standard protective cover without semaphore Max. 340 mm [13.39"] standard protective cover without semaphore Max. 340 mm [13.39"] standard protective cover without semaphore Max. 340 mm [13.39"] standard protective cover without semaphore Max. 340 mm [13.39"] standard protective cover without semaphore Max. 340 mm [13.39"] standard protective cover without semaphore Max. 340 mm [13.39"] standard protective cover without semaphore Max. 340 mm [13.39"] standard protective cover without semaphore Max. 340 mm [13.39"] standard protective cover without semaphore Max. 340 mm [13.39"] standard protective cover without semaphore Max. 340 mm [13.39"] standard protective cover with semaphore Max. 340 mm [13.39"] standard protective cover with semaphore Max. 340 mm [13.39"] standard protective cover with semaphore Max. 340 mm [13.39"] standard protective cover with semaphore Max. 340 mm [13.39"] standard protective cover without semaphore Max. 340 mm [13.39"] standard protective cover without semaphore Max. 340 mm [13.39"] standard protective cover without semaphore Max. 340 mm [13.39"] standard protective cover without semaphore Max. 340 mm [13.39"] standard protective cover without semaphore Max. 340 mm [13.39"] standard protective cover with semaphore Max. 340 mm [13.39"] standard protective cover with semaphore Max. 340 mm [13.39"] standard protective cover with semaphore Max. 340 mm [13.39"] standard	Mounting seal ring (optional)	NBR or Viton
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Vent screw Self-securing; stainless steel; SW 10 Optionally available without vent screw Dimensions Fastening Protective cover 2 291 mm [Ø 11.46"] standard protective cover Wax. 234 5 mm [Ø 9.25"] bolt circle of the 6 holes Ø 15.5 mm (Ø 0.61") Height (in triggered state) Max. 234.5 mm [9.23"] standard protective cover without semaphore Max. 340 mm [13.46"] cover with directed oil flow without semaphore Max. 340 mm [13.46"] cover with directed oil flow with semaphore Max. 340 mm [13.46"] cover with directed oil flow with semaphore Max. 342 mm [9.96"] cover with directed oil flow with semaphore Max. 342 mm [13.46"] cover with directed oil flow with semaphore Max. 342 mm [13.46"] cover with directed oil flow with semaphore Max. 342 mm [13.46"] cover with directed oil flow with semaphore Mounting seal ring Optionally available, Ø 200 mm x Ø 178.5 mm x 4.25 mm [Ø 7.87" x Ø 7.03" x 0.17"], NBR or Viton Connection cable length for plug variant 3658 mm [144"], 4572 mm [180"], 5004 mm [197"], 5080 mm [200"], 6096 mm [240"], 7620 mm [300"], 9144 mm [360"], 10,000 mm [394"], 11,990 mm [472"]; 15,010 mm [591"]; 20,110 mm [792"] Micro-switch MESSKO® MPreC® Contacts 1 x NO (normally open), 1 x NC (normally closed) for each micro-switch Special design: Micro-switch 2 x NO (normally open contact) Housing material Seawater-proof aluminum Rated operating voltage U _a = 240 V Contact bridge (standard equip-ment) Conventional thermal current: I _{ba} = 10 A Contact bridge with gold-plated contacts Utilization category AC-15; 240 V / 3 A in accordance with EC 60947-5-1 Conventional thermal current: I _{ba} = 10 A Contact bridge with 2 x normally open contacts Conventional thermal current: I _{ba} = 5 A	Signal pin	Seawater-proof aluminum; red (anodized) for standard sealing lip (NBR); blue (anodized) for Viton
Optionally available without vent screw	Semaphore	
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Mounting seal ring Optionally available, Ø 200 mm x Ø 178.5 mm x 4.25 mm [Ø 7.87" x Ø 7.03" x 0.17"], NBR or Viton Connection cable length for plug variant 1219 mm [48"]; 1829 mm [72"]; 2134 mm [84"]; 2438 mm [96"]; 3658 mm [144"]; 4572 mm [180"]; 5004 mm [197"]; 5080 mm [200"]; 6096 mm [240"]; 7620 mm [300"]; 9144 mm [360"]; 10,000 mm [394"]; 11,990 mm [472"]; 15,010 mm [591"]; 20,110 mm [792"] Micro-switch MESSKO® MPreC® Contacts 1 x NO (normally open), 1 x NC (normally closed) for each micro-switch Special design: Micro-switch 2 x NO (normally open contact) Housing material Rated operating voltage Ue = 240 V Contact bridge (standard equipment) Contact bridge with gold-plated contacts Utilization category AC-15; 240 V / 3 A in accordance with EC 60947-5-1 Conventional thermal current: I_{the} = 10 A Contact bridge with 2 x normally open contacts Utilization category AC-15; 240 V / 1.5 A in accordance with EC 60947-5-1 Conventional thermal current: I_{the} = 10 A Utilization category AC-15; 240 V / 1.5 A in accordance with EC 60947-5-1 Conventional thermal current: I_{the} = 5 A	Height (in triggered state)	Max. 340 mm [13.39"] standard protective cover with semaphore
Viton		Max. 342 mm [13.46"] cover with directed oil flow with semaphore
variant 3658 mm [144"]; 4572 mm [180"]; 5004 mm [197"]; 5080 mm [200"]; 6096 mm [240"]; 7620 mm [300"]; 9144 mm [360"]; 10,000 mm [394"]; 11,990 mm [472"]; 15,010 mm [591"]; 20,110 mm [792"] Micro-switch MESSKO® MPreC®	Mounting seal ring	Viton
		3658 mm [144"]; 4572 mm [180"]; 5004 mm [197"]; 5080 mm [200"]; 6096 mm [240"]; 7620 mm [300"]; 9144 mm [360"]; 10,000 mm [394"];
Special design: Micro-switch 2 x NO (normally open contact) Housing material Seawater-proof aluminum Rated operating voltage $U_e = 240 \text{ V}$ Contact bridge (standard equipment) Utilization category AC-15; 240 V / 3 A in accordance with EC 60947-5-1 Conventional thermal current: $I_{the} = 10 \text{ A}$ Contact bridge with gold-plated contacts Utilization category AC-15; 240 V / 3 Al in accordance with EC 60947-5-1 Conventional thermal current: $I_{the} = 10 \text{ A}$ Contact bridge with 2 x normally open contacts Utilization category AC-15; 240 V / 1.5 A in accordance with EC 60947-5-1 Conventional thermal current: $I_{the} = 5 \text{ A}$	Micro-switch	MESSKO® MPreC®
Housing material Seawater-proof aluminum Rated operating voltage $U_e = 240 \text{ V}$ Contact bridge (standard equipment) Utilization category AC-15; 240 V / 3 A in accordance with EC 60947-5-1 Conventional thermal current: $I_{th e} = 10 \text{ A}$ Contact bridge with gold-plated contacts Utilization category AC-15; 240 V / 3 Al in accordance with EC 60947-5-1 Conventional thermal current: $I_{th e} = 10 \text{ A}$ Contact bridge with 2 x normally open contacts Utilization category AC-15; 240 V / 1.5 A in accordance with EC 60947-5-1 Conventional thermal current: $I_{th e} = 5 \text{ A}$	Contacts	1 x NO (normally open), 1 x NC (normally closed) for each micro-switch
Rated operating voltage $U_e = 240 \text{ V}$ Contact bridge (standard equipment) Utilization category AC-15; 240 V / 3 A in accordance with EC 60947-5-1 Conventional thermal current: $I_{th e} = 10 \text{ A}$ Contact bridge with gold-plated contacts Utilization category AC-15; 240 V / 3 Al in accordance with EC 60947-5-1 Conventional thermal current: $I_{th e} = 10 \text{ A}$ Contact bridge with 2 x normally open contacts Utilization category AC-15; 240 V / 1.5 A in accordance with EC 60947-5-1 Conventional thermal current: $I_{th e} = 5 \text{ A}$		Special design: Micro-switch 2 x NO (normally open contact)
Contact bridge (standard equipment) Utilization category AC-15; 240 V / 3 A in accordance with EC 60947-5-1 Conventional thermal current: $I_{the} = 10$ A Contact bridge with gold-plated contacts Utilization category AC-15; 240 V / 3 AI in accordance with EC 60947-5-1 Conventional thermal current: $I_{the} = 10$ A Contact bridge with 2 x normally open contacts Utilization category AC-15; 240 V / 1.5 A in accordance with EC 60947-5-1 Conventional thermal current: $I_{the} = 5$ A	Housing material	Seawater-proof aluminum
ment) Conventional thermal current: $I_{th e} = 10 A$ Contact bridge with gold-plated contacts Conventional thermal current: $I_{th e} = 10 A$ Utilization category AC-15; 240 V / 3 AI in accordance with EC 60947-5-1 Conventional thermal current: $I_{th e} = 10 A$ Utilization category AC-15; 240 V / 1.5 A in accordance with EC 60947-5-1 Conventional thermal current: $I_{th e} = 5 A$	Rated operating voltage	U _e = 240 V
contacts Conventional thermal current: $I_{th e} = 10 A$ Contact bridge with 2 x normally open contacts Utilization category AC-15; 240 V / 1.5 A in accordance with EC 60947-5-1 Conventional thermal current: $I_{th e} = 5 A$	•	
open contacts Conventional thermal current: I _{th e} = 5 A		
Rated insulation voltage AC: 2500 V / 1 min		
	Rated insulation voltage	AC: 2500 V / 1 min



Connection data

Connection via cable screw connection (gland)

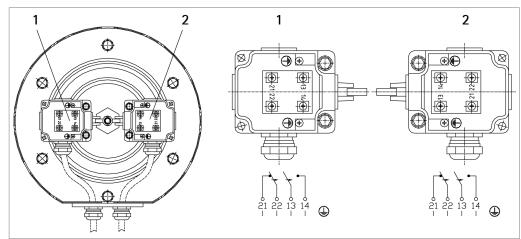


Figure 1: Standard protective cover

1 Micro-switch 1, see page 1/3 2 Micro-switch 2, see page 1/3

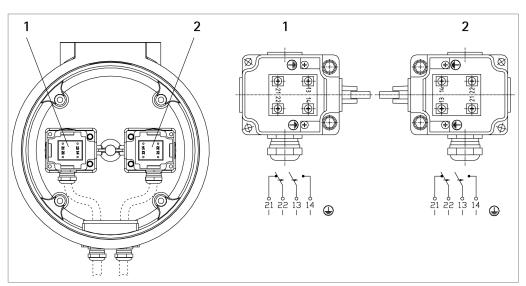


Figure 2: Protective cover with directed oil flow

MESSKO® MPreC®	Connection data	
Cable screw connection	1 micro-switch:	Cover/vertical plate: 1 x M20x1.5 (SW 24) for cable Ø 815 mm
		1 x dummy plug M20x1.5
		Switch housing: 1 x M20x1.5
	2 micro-switches:	Cover/vertical plate: 2 x M20x1.5 (SW 24) for cable Ø 815 mm
		Switch housing: 2 x M20x1.5
Degree of protection	IP 65 in accordance with IEC 60 529 (with mounted protective cover) IP 66 in accordance with IEC 60 529 (optionally with mounted protective cover)	
Connection terminals	Single-wire: 0.52.5 mm², AWG 20-10 or Litz wire with ferrule: 0.51.5 mm², AWG 20-15	



Connection via ANSI or Westinghouse plug

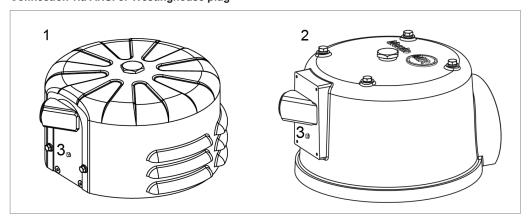


Figure 3: Plug connections

- 1 Standard protective cover 2 Protective cover with directed oil flow
- 3 Ground connection

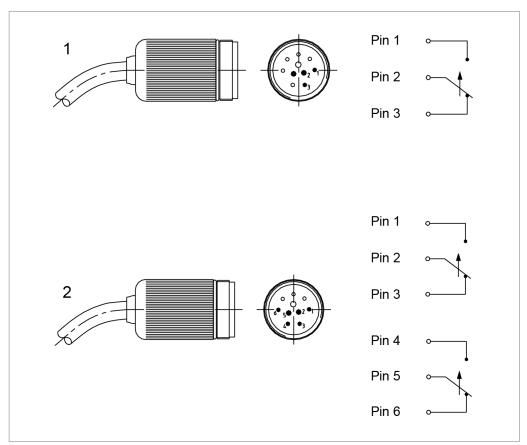


Figure 4: Connection via ANSI plug

	1 1 Micro-switch	2 2 Micro-switch	
Wire colors of the sup-	Pin 1: black	Pin 1: black Pi	n 4: orange
plied cable:	Pin 2: red	Pin 2: red Pi	n 5: yellow
	Pin 3: blue	Pin 3: blue Pi	n 6: brown



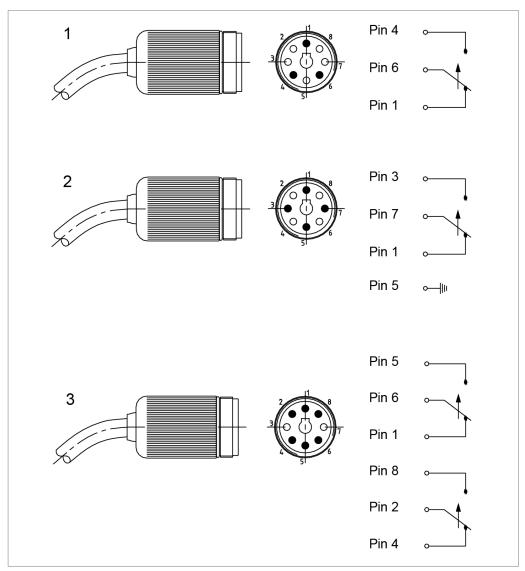


Figure 5: Connection via Westinghouse plug

	1	1 micro-switch, not	grounded	2	1 micro-switch, grounded
Wire colors of the		Pin 1: black			Pin 1: black
supplied cable:		Pin 4: green			Pin 3: green
		Pin 6: white			Pin 5: red
					Pin 7: white
	3	2 micro-switch, not	grounded		
Wire colors of the		Pin 1: red	Pin 2: white		
supplied cable:		Pin 5: blue	Pin 4: black		
		Pin 6: orange	Pin 8: green		

MESSKO® MPreC®	Connection data
Cable	16 AWG, SOOW, 600 V
	Various lengths by request (24"240" standard)
	3 x AWG 16, Ø 10 mm cable
	6 x AWG 16, Ø 17 mm cable
Degree of protection	IP 65 in accordance with IEC 60 529 (with mounted protective cover)



Connection via connection box

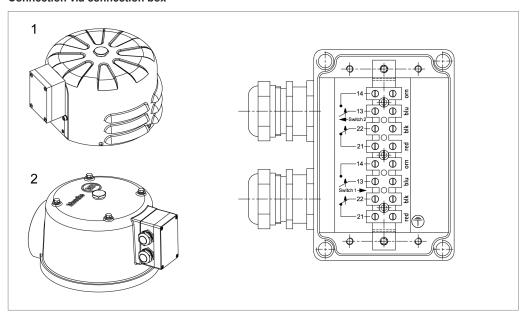


Figure 6: Connection box

2 Trotective cover with directed on how	1 Standard cover 2 Protective cover with directed oil flow
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Connection data	
1 micro-switch: Connection box: 1 x M25x1.5 for cable diameter 8. (wrench size 24); 1 x dummy plug M25x1.5 Switch housing: 1 x M20x1.5	
	Switch housing: 2 x M20x1.5
IP65 in accordance with IEC 60 529	
Only optional for OD cover: IP66 in accordance with IEC 60 529	
Single-wire: 0.52.5 mm², AWG 20-10 or Litz wire with ferrule: 0.51.5 mm², AWG 20-15	
	1 micro-switch: 2 micro-switches: IP65 in accordance Only optional for C Single-wire: 0.52



Semaphore

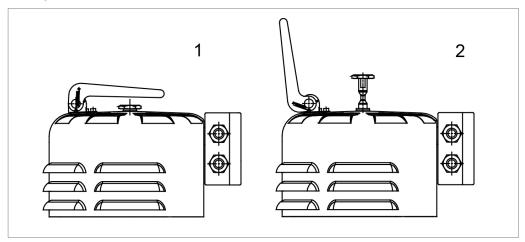


Figure 7: Semaphore, using the example of the MPreC with standard cover

1 OPERATION position 2	ALARM position
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MESSKO® MPreC®	Connection data
Semaphore	
Material	Stainless-steel
Signal color	RAL 1026 luminous yellow powder coating
Optional	Not suitable for offshore applications



Dimensions

Protective cover

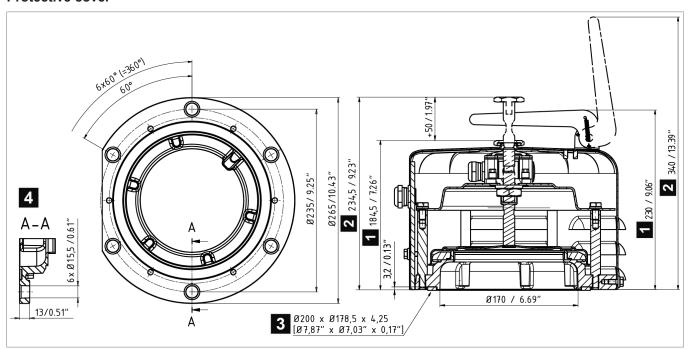


Figure 8: Standard protective cover dimensions

1 OPERATION position	2 ALARM position
3 Mounting seal ring	4 Screw connection



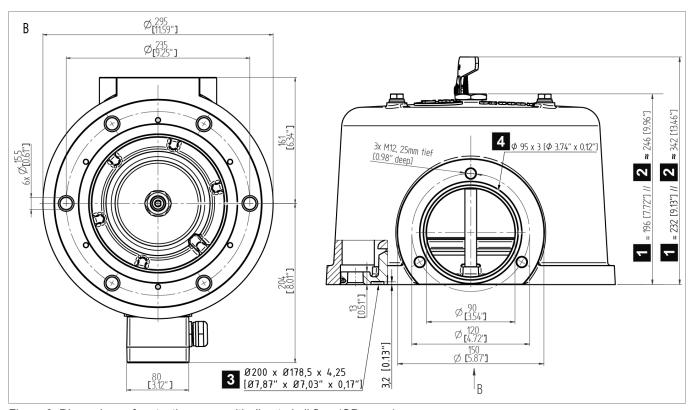


Figure 9: Dimensions of protective cover with directed oil flow (OD cover)

1 OPERATION position	2 ALARM position
3 Mounting seal ring	4 Groove for O-ring (NBR)



Flange on protective cover with directed oil flow (OD cover)

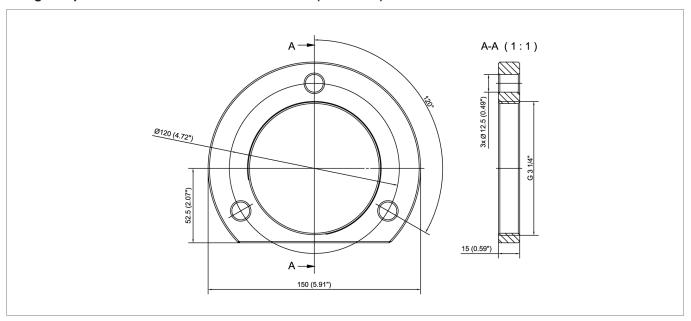


Figure 10: Flange with internal thread (optional)

MESSKO® MPreC®	Flange with internal thread
Material	1.4301 stainless steel
Order No.	73647900

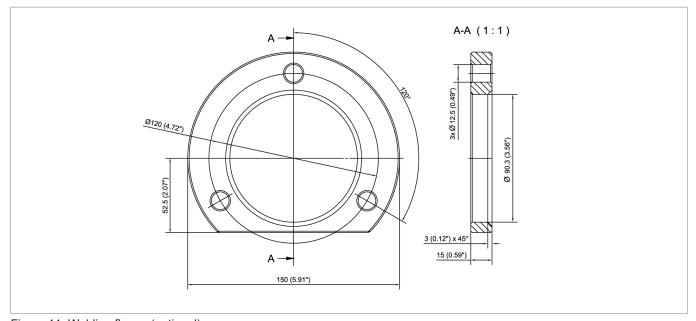


Figure 11: Welding flange (optional)

MESSKO® MPreC®	Welding flange	
Material	1.4301 stainless steel	
Order No.	74045000	

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