



May 2016

# Buchholz Relay Comem BR Order sheet



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# Buchholz Relay (Comem BR)

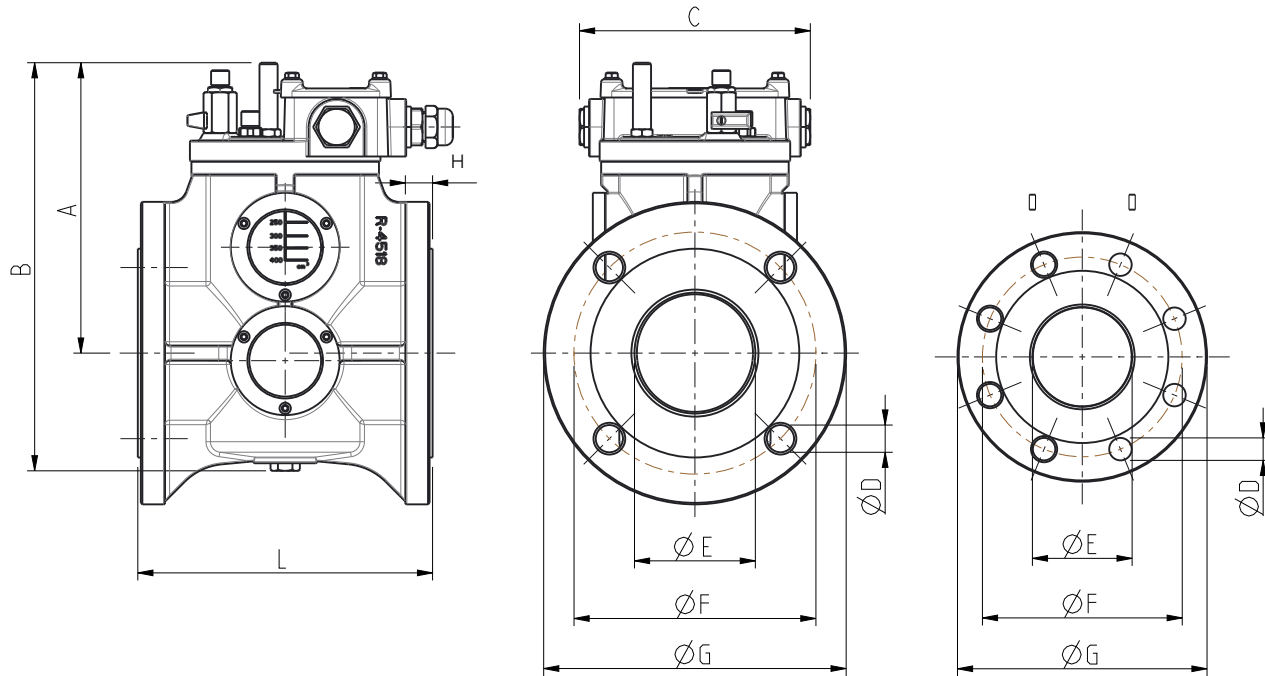
## Technical data

Buchholz Relay	Technical data
<b>Material</b>	
Housing and upper part inclusive terminal box	Aluminum casting, RAL 7001 (RAL 9002 for electronic version), powder coated; Off shore model on request
<b>Characteristics Data</b>	
Installation	Indoors and outdoors, tropical proof
Ambient temperature	-40 to 80°C / -40 to 176°F
Oil temperature	-40 to 115 °C / -40 to 239 °F (artic version on demand)
Degree of protection	IP65 in accordance with EN60529 (on demand IP 66)
Rated insulation voltage	2.5 kV AC 1 min between contact and earth
Nominal tube diameter	DN25, DN50, DN80 and DN100 or G1 ½" threaded connection; ANSI 1",2",3"
Flap triggering pressure	0.65 m/s to 3.0 m/s (each ±15%)
<b>Protected Reed Switch</b>	
Number and types	Normally closed (NC), normally open (NO) and/or change over contacts (CO) on customer requests, potential free, 2 pieces per function; max 4 pieces
Nominal Voltage	24 – 230 VAC/DC
Max nominal current	2A
Min switching current	10 mA/24 VDC (for lower current are available the golden contact)
Max breaking capacity DC	250W (L/R<40 ms)
Max breaking capacity AC	400 VA (cosφ>0.5)
Rated insulation voltage	2.5 kV AC 1 min between contacts and earth, 1.0 kV AC 1 min between open contacts
Insulation resistance	1000 MΩ/500 VDC
<b>Connection</b>	
Connection terminals	Min 0.25 mm <sup>2</sup> / max. 4 mm <sup>2</sup>
Cable Gland	N°2 x M25 x 1.5 (standard)
<b>Mechanical test</b>	
Sinusoidal (EN 60721-3-4)	cl.4M4: 2-9 Hz (6 mm peak to peak), 9 – 200 Hz (1 g) – All axis cl.4M6: 2-9 Hz (14 mm peak to peak), 9 – 200 Hz (2 g) – All axis
Shock	cl.4M4: 10 g (11 ms) in all the directions (EN60721-3-4) cl.4M6: 20g vertical axis (Spectrum I in agreement with EN 60721-3-4)
Seismic	EN60068-3-3 (cl.0, level II)

# Buchholz Relay (Comem BR)

## Dimensions

### Buchholz Relay

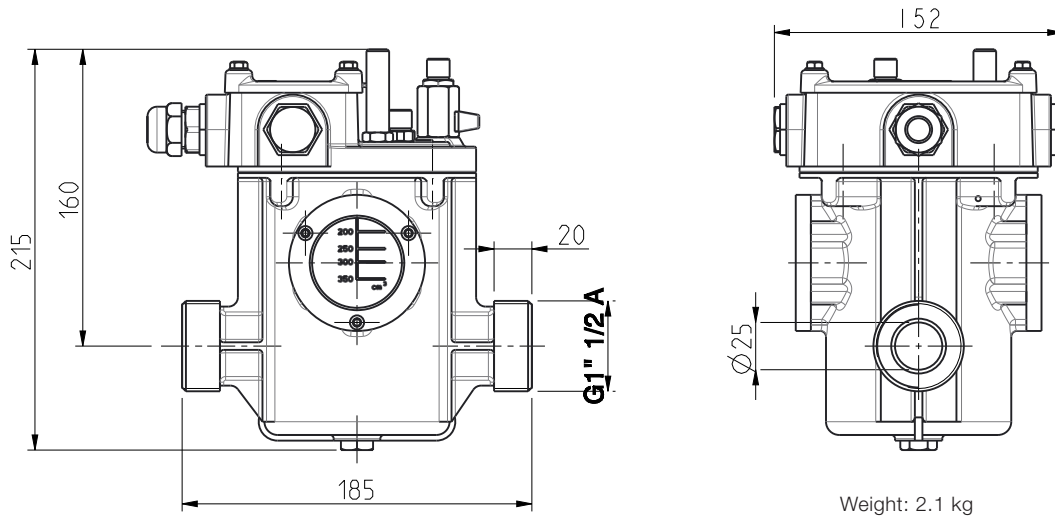


Type	ØE (mm)	L (mm)	A (mm)	B (mm)	C (mm)	ØF (mm)	G (mm)	ØD (mm)	N° holes	H (mm)	Weight (kg)
Comem BR	25	200	160	215	140	85	Ø115	14	4	17	2.9
	50	195	178	254	140	125	Ø165	18	4	18	4.9
	80	195	193	270	140	160	Ø200	18	4	18	5.8
	80	195	193	270	140	160	Ø200	18	8	18	5.8
Comem BS	25	127	160	218	144	72	76	M10	4	10	2.2
Comem NF	25	240	160	218	218	85	Ø115	11	4	15	3.0
	50	240	172	248	218	125	Ø165	18	4	15	4.8
	80	240	172	248	218	160	Ø200	18	4	15	5.5
Comem C01	25	140	160	218	140	75	Ø100	12	4	8	2.2
Comem C1	25	160	160	218	140	75	Ø100	12	4	10	2.3
Comem C4	100	220	203	280	140	180	Ø220	18	8	18	5.9

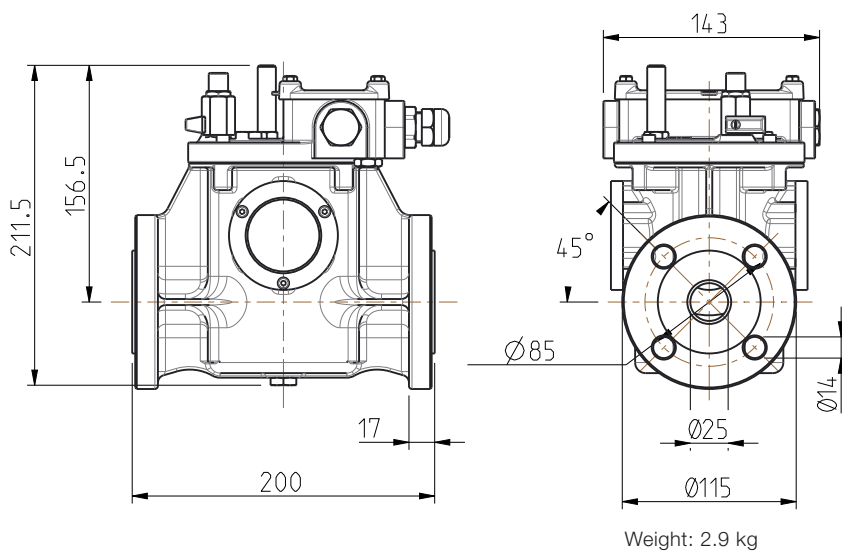
# Buchholz Relay (Comem BR)

## Dimensions

### Type Comem BG 25



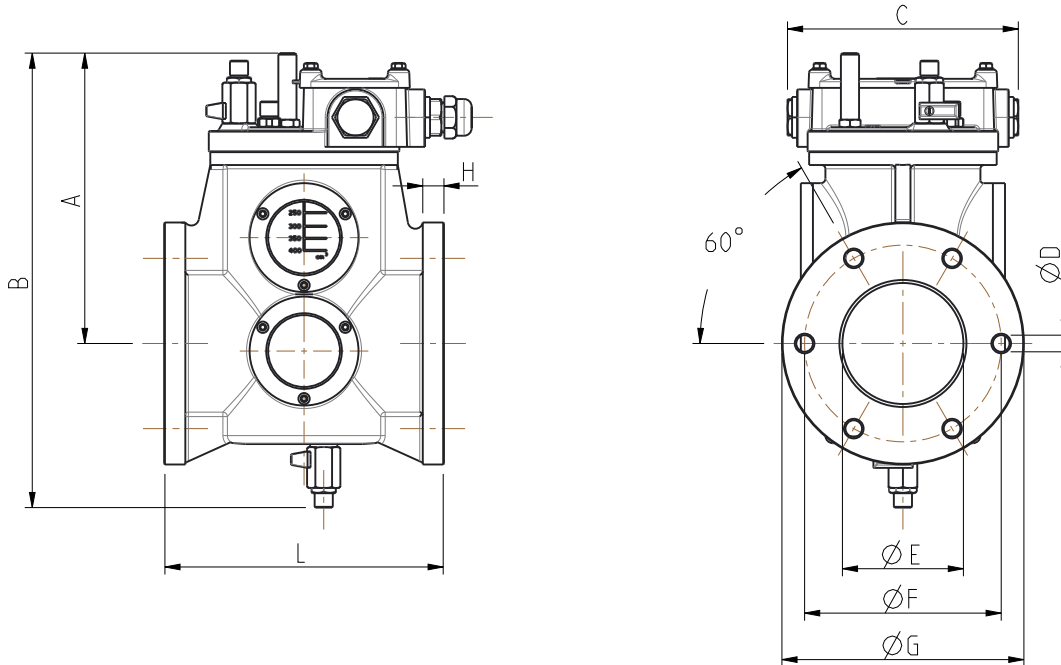
### Comem OR 25 (for OLTC application)



# Buchholz Relay (Comem BR)

## Dimensions

### Buchholz Relay (Type "Comem BS")



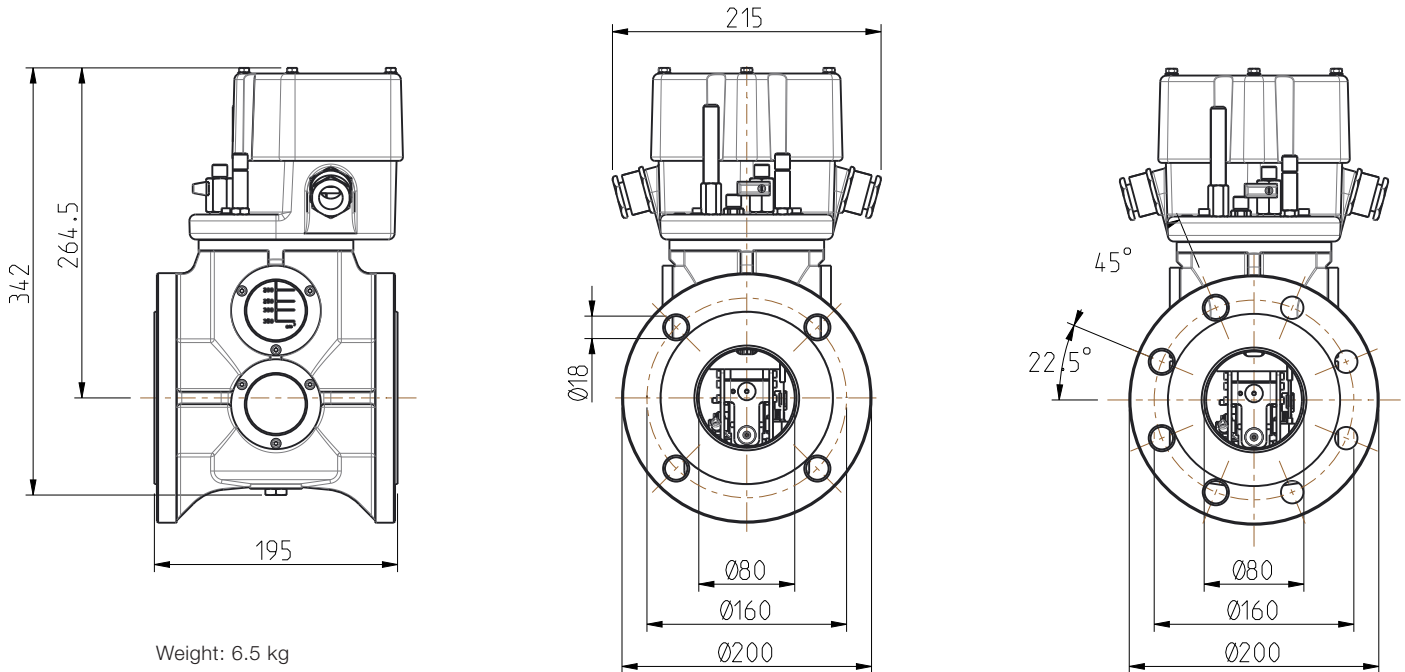
Type	ØE (mm)	L (mm)	A (mm)	B (mm)	C (mm)	ØF (mm)	G (mm)	ØD (mm)	N° holes	H (mm)	Weight (Kg)
Comem BS	50	185	178	288	144	110	Ø140	11	6	14	4.1
	80	185	178	288	144	130	Ø160	11	6	14	4.3



# Buchholz Relay (Comem BR)

## Analogue and digital outputs

### Comem eBR: Comem BR80 with analog and digital output



Comem eBR	Technical data
Ventilation valve	To prevent the formation of condensation
Wires	Max 2.5mm <sup>2</sup> – advised 4x1mm <sup>2</sup> or 6x1mm <sup>2</sup> shielded twisted pair cable for analog/digital output
Rated voltage	24 VDC ±10% polarized
Current consumption	Max 0.5 W
Analog output (gas accumulation)	4-20 mA (dielectric strength between electronic board and analog output:1kV) Minimum / Maximum resistance: 100 / 470 Ω
Max distance for analogical output	Max 30 m / 98 ft (for different demands contact ABB's Comem Operating Unit After Sales dept.)
Digital output (optional)	Serial RS485 for MODBUS RTU (for more information contact BB's Comem Operating Unit After Sales dept.)
Distance for digital output	Max 30 m / 98 ft (for different demands contact BB's Comem Operating Unit )

For further information or clarification, please contact our support team:  
**E-mail address: [it-support.comem@abb.com](mailto:it-support.comem@abb.com)**

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# Buchholz Relay (Comem BR)

## Order specification sheet

Date	
Rev.	
Customer reference	

Part-nr.:	Parameter 1	Parameter 2	Parameter 3	Parameter 4	Parameter 5	Parameter 6
	<b>1R</b>					

Parameter 1	Pipe Ø (mm)
1	Ø100
2	Ø25
5	Ø50
8	Ø80 - 4 holes flange
8	Ø80 - 8 holes flange
A	Ø25 - cl4M6 4 holes flange
B	Ø50 - cl4M6
C	Ø80 - cl4M6 - 4 holes flange
C	Ø80 - cl4M6 - 8 holes flange
G	Ø25 - Damper held
L	Ø50 - Damper held
M	Ø80 - Damper held - 4 holes flange
M	Ø80 Damper held - 8 holes flange
X	Ø80 - Analog output

Parameter 6	Corrosion protection
S	C4 acc. to ISO 12944 (standard)
5	C5-M acc to ISO 12944 (not paintable)

Triggering pressure flap <sup>(3)</sup>	
1.0 m/s	
1.5 m/s	
2.0 m/s	
2.5 m/s	
3.0 m/s	
Special	... m/s

Color	
RAL 7001	Standard
	Special

**Notes:**

- (1) OLTC application: see the dedicated section on page 9
- (1) Buchholz with analog and digital output: see the dedicated section on page 9
- (2) Buchholz with analog and digital output: see the dedicated section on page 9
- (3) Buchholz with analog and digital output: see the dedicated section on page 9

**Notes:**

Parameter 2	Notes
Comem BR	
Comem BG	
Comem BS	
Comem NF	
Comem OR	OLTC application
Comem C0	Type C01
Comem C1	
Comem C4	not applicable for pressure flap 1.0 m/s

Parameter 4 <sup>(2)</sup>	Cable gland (max nr. 3)	Quantity
1	M25 x 1.5 (standard)	1
Special		

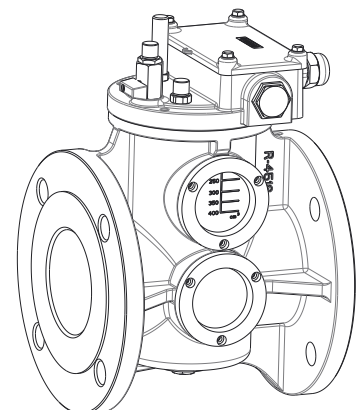
Parameter 5	Gasket
V	Viton
N	NBR
F	Fluor silicon
H	HNBR

Temperature range	
Standard (-40°C)	
Artic version (-60°C)	

Parameter 3 <sup>(1)</sup>	Alarm contacts	Trip contacts
A	1 x NO	1 x NO
L	1 x CO	1 x CO
G	1 x NO	2 x NO
P	2 x NO	1 x NO
I	2 x NO	2 x NO
V	2 x NC	2 x NC
O	Special	Special
Alarm 1		
Alarm 2		
Trip 1		
Trip 2		

**Legend:**

- NO:** Normally open
- NC:** Normally Close
- CO:** Change over



# Buchholz Relay (Comem BR)

## Order specification sheet

Date	
Rev.	
Customer reference	

### Comem OR 25 (for OLTC application) – Electrical scheme

Parameter 3	Trip contacts
1	1 x CO
2	2 x NO
3	2 x NC
4	1 x NC + 1 x NO
5	2 x CO
6	1 x CO + 1 x NO
7	3 x NO
8	1 x NO

Legend:

**NO**: Normally open  
**NC**: Normally Close  
**CO**: Change over

### Comem eBR – Electrical scheme

Parameter 3	Alarm gas	Alarm Speed	Trip
F	NO	NO	NO
K	NO	NO	NC
Q	NC	NO	NO
R	NC	NO	NC
S	NO	NO	CO
W	CO	NO	NO
X	NC	NO	NO
U	CO	NO	NC
Z	CO	NO	CO

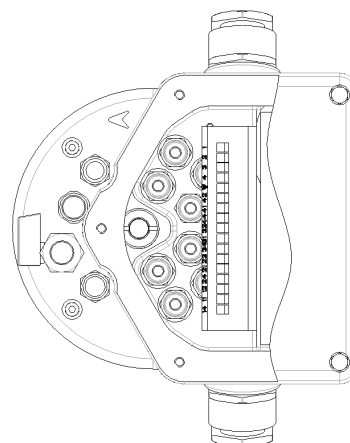
Parameter 4	Alarm flap	MODBUS	Flap alarm/trip monitoring via MODBUS		Petcock Control
			Supply 24-48V AC/DC	Supply 110-220V AC/DC	
5	YES	NO	-	-	-
6	NO	NO	-	-	-
A	YES	YES	■	-	-
B	YES	YES	-	■	-
C	YES	YES	■	-	■
D	YES	YES	-	■	■

#### Alarm triggering pressure flap

-
1.0
1.5
2.0
2.5

#### Trip triggering pressure flap

1.0
1.5
2.0
2.5
3.0



Electrical box

For further information or clarification, please contact our support team:  
**E-mail address: [it-support.comem@abb.com](mailto:it-support.comem@abb.com)**

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