

# Bühler Condition Monitor BCM-MS



Fluidcontrol

## Continuous condition monitor for lubricating and hydraulic oils

Continuously monitoring the condition of the respective fluid in hydraulic and lubricating systems is essential. Failing to continuously monitor the condition can result in considerable system damage.

The Bühler Condition Monitoring Multi Sensor (BCM-MS) was designed specifically to continuously monitor the relative humidity, temperature, permittivity and conductivity in oil. By monitoring the fluid, sudden and subtle deterioration or changes in oil quality can be accurately detected and the oil change intervals extended or planned accurately. Maintenance costs can be reduced significantly. This makes the Bühler Condition Monitoring Multi Sensor an essential part of your condition monitoring system.

The BCM-MS capacitively measures the relative humidity in the medium to ensure reliable information about the saturation level of the oil.

The conductivity and permittivity can be used to obtain substantiated information about oil ageing, replenishment and mixing with other oils or foreign objects. Since conductivity and permittivity are greatly affected by the temperature, the actual temperature is always determined as well.



### BCM-MS200

4-20 mA and CAN bus

High pressure resistance of up to 50 bar

Continuously logs relative humidity, temperature, conductivity and permittivity

Compact, tough housing also suitable for demanding applications

Multifunction sensor

Easy system connection directly inside the tank or via line adapter

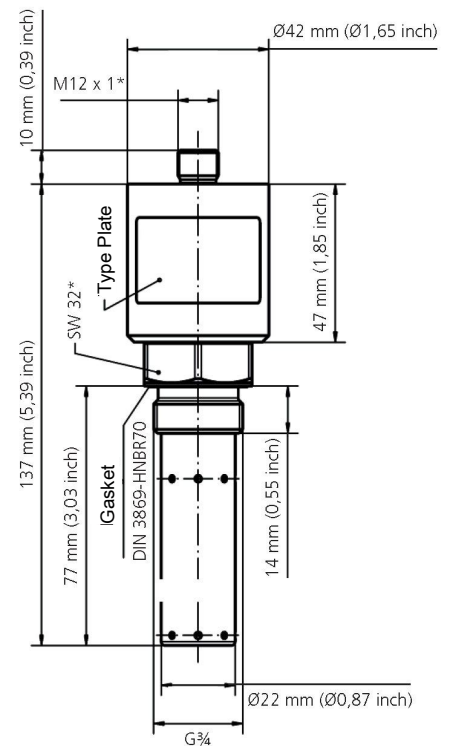
Evaluates and saves actual data



BCM-MS Technical Data

BCM-MS200–1DC2A	1DC2A
Version:	Compact unit
Process connection:	G3/4
Material in contact with media:	aluminium, HNBR, polyurethane resin, epoxy resin, electroless nickel immersion gold (ENIG), solder, aluminium oxide, glass, gold, silver palladium
Medium temperature:	-20 °C to +85 °C
Ambient temperature:	-20 °C to +85 °C
Pressure resistance:	50 bar
Compatible fluids:	mineral oils (H, HL, HLP, HLPD, HVLP), synthetic esters (HETG, HEPG, HEES, HEPR), polyalkylene glycol (PAG), zinc- and ash-free oils (ZAF), poly-alpha-olefins (PAO)
Weight:	140 g
Operating voltage (U <sub>b</sub> ):	9 – 33 V DC
Power input:	max. 0.2 A
<b>Measuring range</b>	
Temperature:	-20 °C...85 °C
Rel. humidity:	0...100 %
Rel. permittivity:	1...7
Conductivity:	100...800,000 pS/m
<b>Measuring accuracy</b>	
Temperature:	±2 K
Rel. humidity:	±3 %
Rel. permittivity:	±0.015
Conductivity (100...2,000 pS/m):	±200 pS/m
Conductivity (2,000...800,000 pS/m):	<±10 %
1DC output:	RS232/CANopen/SAE J1939
2A output:	2x 4-20 mA (assigned to one fixed measurand or sequential output of all values)

Dimensions



Standard pin assignment

Plug connection	M12 (base)
Number of pins	8-pin
Voltage	max. 33 V DC
IP rating with IP67 cable box attached	IP67
Version	1DC2A
Connection schematic	
1	L+
2	L-
3	TxD, CAN low [OUT]
4	RxD, CAN high [IN]
5	-
6	Analog output, 4...20 mA
7	Analog output, 4...20 mA
8	Signal earth
Shield	-

**BCM-MS model key**

**BCM - MS200 - 1DC2A**

<b>Type designation</b>						
BCM	Bühler Condition Monitor					
M	Multisensor					
S	Sensor					<b>Outputs</b>
<b>Process connection</b>		1DC2A	1x CANopen/2x analog			
0	G3/4"					

Item no.	Model
1550001000	BCM-MS200-1DC2A

**BCM-MS accessories**

Item no.	Description
1590001005	Line adapter
1590001001	RS232 data cable
1590001002	USB/RS232 adapter
1590001003	Power supply