



DAS HERZ DER FRISCHE

RECIPROCATING AND SCREW COMPRESSORS

OPTICAL LEVEL

CONTROLLING SENSOR

DATASHEET // V. 2.0

SPECIFICATIONS



OLS-1



ELECTRONIC
COMPONENTS



RECIPROCATING
COMPRESSORS



PRODUCT DESCRIPTION

The OLS-1 optical level sensor is designed to be used with the CM-RC-02 module. The CM-RC-02 module handles check of correct installation, control of level, monitoring of correct function, and timing.

Level monitoring

The OLS-1 consists of a screw-in prism unit and an optical level detection device. The prism is installed in the compressor. The prism and the OLS-1 are two separate items. The level detection device can be replaced without opening the compressor.

Detection of the level is via infrared light.

Oil level monitoring in compressors

The OLS-1 is used for contactless oil level monitoring in compressors in order to safeguard sufficient lubrication of the internal mechanics.

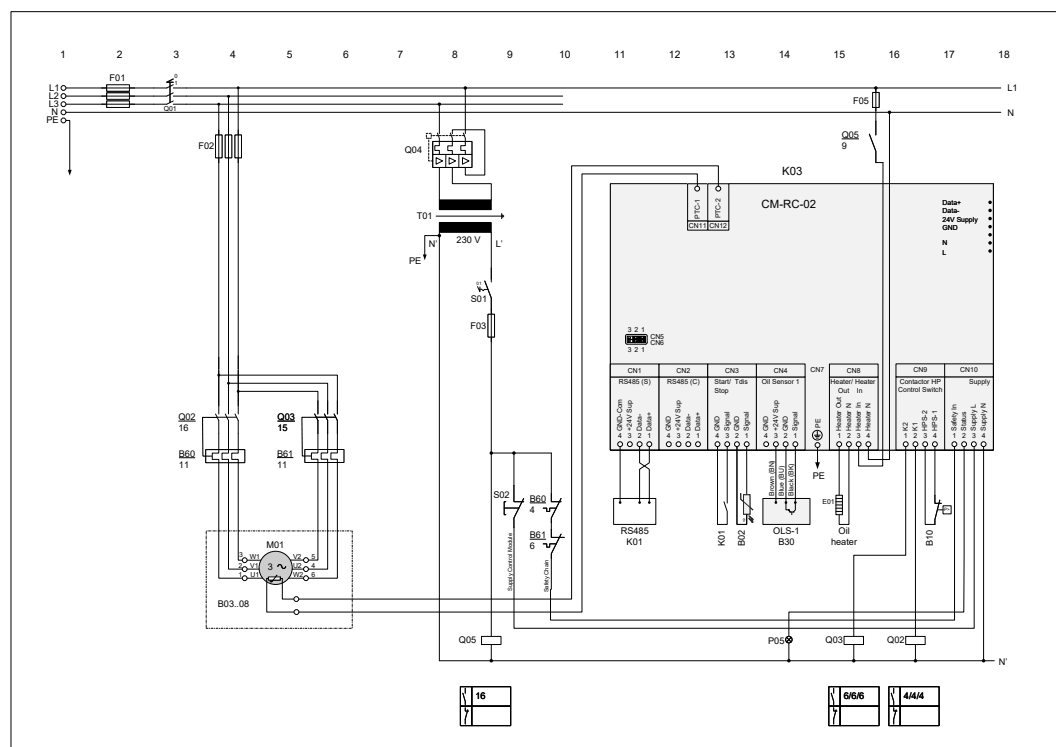
Fluctuation of the oil level in the compressor is common in refrigeration systems for different reasons and therefore oil levels need to be monitored.

The OLS-1 is continuously monitoring the oil level. If the oil level is low, the CM-RC-02 module will stop the compressor and give the corresponding alarm.

TECHNICAL DATA

Technical specifications			
Description	OLS-1 24VDC 950mm	OLS-1 24VDC 1100mm	OLS-1 24VDC 3000mm
Supply voltage	24 VDC, $\pm 20\%$, 1 VA		
Max media temperature	+120°C		
Permitted ambient temperature	Operation: -30°C – +60°C Storage: -30°C - +60°C		
Relative humidity	Max. 95%RH non-condensing. Circuit board is coated		
Altitude above sea level	0 .. 4000 m		
Open collector output (signal)	24 VDC, $\pm 10\%$, max 16 mA (Frequency signal)		
Wires in cable	3		
Enclosure class	Housing IP54; cable outlet pointing downwards		
Mounting of the detection circuit	Screw mounted, M24 Max. tightening torque: 10 Nm by hand only		
Cable length	950 \pm 50 mm	1100 \pm 50 mm	3000 \pm 50 mm
Weight	95 g	101 g	175 g
Cable temp resistance	-30°C .. 105°C		
Dimensions	55.5 mm (w) x 87.0 mm (d) x 57.5 mm (h)		
Housing material	PA66 UL94-V0		
Standards used	EN61000-6-2, EN61000-6-3		

SCHEMATIC WIRING DIAGRAM - PART-WINDING



Legend	
B02	Discharge gas / oil temperature sensor
B03 .. 08	Temperature sensors in motor windings
B10	High pressure switch
B30	OLS-1 Oil level switch
B50	High pressure transmitter
B60	Overload protective device
B61	Overload protective device for second part winding
E01	Oil heater
F01	Main fuse
F02	Compressor fuse
F03	Control circuit fuse
K01	Superior controller
K03	Compressor module
M01	Compressor motor
P05	Light: collective fault
Q01	Main switch
Q02	Contactor for first part winding (PW) or main contactor (Y/Δ) or compressor contactor (DOL)
Q03	Contactor for second part winding (PW) or delta contactor (Y/Δ)
Q04	Control transformer fuse
Q05	Contactor for oil heater
S01	Control switch (on-off)
S02	Reset of compressor safety chain
T01	Control transformer (example for 230 V, required according to EN60204-1)

View colour	Function
Brown (BN)	+24V Supply
Blue (BJ)	DND
Black (BK)	Signal

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