

Datum 24.10.16  
 Bearb. Hattinger  
 Gepr.  
 Norm



Hydrocontrol 2-DL0,55kW MCD202 NR SMRG Outdoor  
 BV Fa. Nourbakhsh  
 Pumpe 1

Zeichn.Nr.:  
 190/16  
 Blatt 2  
 von 5 Bl.













### Main

Range of product	Zelio Control
Product or component type	Modular measurement and control relays
Relay type	Level control relay
Relay name	RM22L
Relay monitored parameters	Detection by resistive probes
Time delay type	Adjustable 0.1...30 s, +/- 10 % of the full scale value on crossing the threshold Tt
Switching capacity in VA	2000 VA
Measurement range	250 Ohm...1 MOhm

### Complementary

Reset time	<= 1750 ms
Maximum switching voltage	250 V AC
Minimum switching current	10 mA at 5 V DC
Maximum switching current	8 A AC
[Us] rated supply voltage	24...240 V AC/DC, 50/60 Hz
Supply voltage limits	20.4...264 V AC/DC
Operating limits	- 15 % + 10 % Un
Power consumption in VA	5 VA AC
Power consumption in W	1.5 W DC
Output contacts	2 C/O
Run-up delay at power-up	< 0.6 s < 2.5 s
Maximum electrode voltage	12 V AC
Maximum electrode current	1 mA
Repeat accuracy	+/- 2 % time delay
Measurement error	0.05 %/°C with temperature variation < 1 % over the whole range with voltage variation
Sensitivity scale	50...1000 kOhm at HS (High Sensitivity) 5...100 kOhm at St (Standard Sensitivity) 0.25...5 kOhm at LS (Low Sensitivity)
Sensitivity adjustment	5...100 %
Supply current for sensors	<= 1 mA
Cable length	1000 m for probe and delay
Cable capacitance	4.7 nF at LS (Low Sensitivity) for probe cable 2.2 nF at St (Standard Sensitivity) for probe cable 1 nF at HS (High Sensitivity) for probe cable
Overvoltage category	III conforming to IEC 60664-1
Insulation resistance	> 100 MOhm at 500 V DC conforming to IEC 60255-27
Insulation	Between supply and measurement
Mounting position	Any position
Connections - terminals	Screw terminals 1 x 0.2...1 x 2.5 mm <sup>2</sup> - AWG 24...AWG 14, flexible cable with cable end Screw terminals 1 x 0.5...1 x 3.3 mm <sup>2</sup> - AWG 20...AWG 12, solid cable without cable end Screw terminals 2 x 0.2...2 x 1.5 mm <sup>2</sup> - AWG 24...AWG 16, flexible cable with cable end Screw terminals 2 x 0.5...2 x 2.5 mm <sup>2</sup> - AWG 20...AWG 14, solid cable without cable end

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric Industries SAS nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

Tightening torque	0.6...1 N.m conforming to IEC 60947-1
Housing material	Self-extinguishing plastic
Status LED	LED green for power ON LED yellow for relay ON
Mounting support	35 mm DIN rail conforming to EN/IEC 60715
Electrical durability	100000 cycles
Mechanical durability	10000000 cycles
Utilisation category	DC-1 conforming to IEC 60947-4-1 AC-1 conforming to IEC 60947-4-1 DC-13 conforming to IEC 60947-5-1 AC-15 conforming to IEC 60947-5-1
Contacts material	Cadmium free
Width	22.5 mm
Product weight	0.11 kg

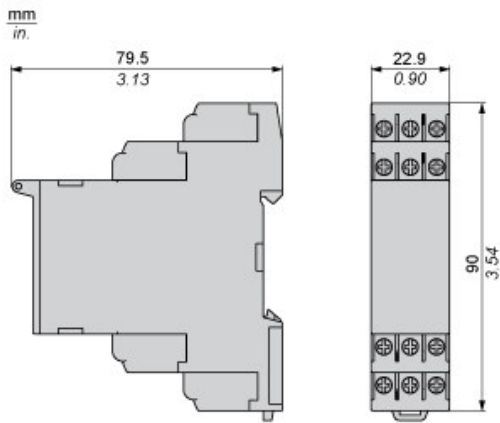
## Environment

Immunity to microbreaks	90 ms AC 100 ms DC
Electromagnetic compatibility	Conducted and radiated emissions class B conforming to CISPR 22 Conducted and radiated emissions class B group 1 conforming to CISPR 11 Surge immunity test 2 kV level 4 differential mode conforming to IEC 61000-4-5 Surge immunity test 4 kV level 4 common mode conforming to IEC 61000-4-5 Electrical fast transient/burst immunity test 2 kV level 4 capacitive coupling conforming to IEC 61000-4-4 Electrical fast transient/burst immunity test 4 kV level 4 direct conforming to IEC 61000-4-4 Radiated radio-frequency electromagnetic field immunity test 10 V/m level 3 conforming to IEC 61000-4-3 Electrostatic discharge 8 kV level 3 air discharge conforming to IEC 61000-4-2 Electrostatic discharge 6 kV level 3 contact discharge conforming to IEC 61000-4-2 Emission standard for industrial environments conforming to EN/IEC 61000-6-4 Emission standard for residential, commercial and light-industrial environments conforming to EN/IEC 61000-6-3 Immunity for industrial environments conforming to EN/IEC 61000-6-2 Immunity for residential, commercial and light-industrial environments conforming to EN/IEC 61000-6-1
Standards	EN/IEC 60255-1
Product certifications	CCC CE CSA GL UL RCM EAC China RoHS
Ambient air temperature for storage	-40...70 °C
Ambient air temperature for operation	-20...60 °C at 50 Hz AC/DC -20...50 °C at 60 Hz
Relative humidity	93...97 % at 25...55 °C conforming to IEC 60068-2-30
Vibration resistance	0.5 gn (f = 58.1...150 Hz) (in operation) conforming to IEC 60068-2-6 0.035 mm (f = 58.1...150 Hz) (in operation) conforming to IEC 60068-2-6 1 gn (f = 10...58.1 Hz) (not in operation) conforming to IEC 60068-2-6 0.075 mm (f = 10...58.1 Hz) (not in operation) conforming to IEC 60068-2-6
Shock resistance	5 gn for 11 ms (in operation) conforming to IEC 60068-2-27 15 gn for 11 ms (not in operation) conforming to IEC 60068-2-27
IP degree of protection	IP50 on front panel conforming to IEC 60529 IP40 on housing conforming to IEC 60529 IP20 on terminals conforming to IEC 60529
Pollution degree	3 conforming to IEC 60664-1
Dielectric test voltage	2.5 kV for 1 min AC 50 Hz conforming to IEC 60255-27

## Offer Sustainability

Sustainable offer status	Not Green Premium product
RoHS (date code: YYWW)	Compliant - since 2015 - <a href="#">Schneider Electric declaration of conformity</a>

Dimensions

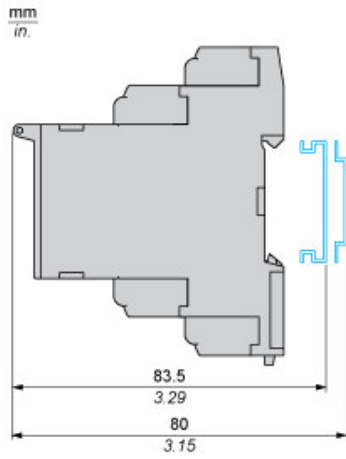


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Mounting and Clearance

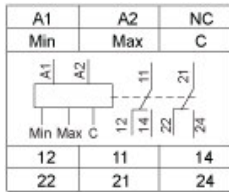
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Rail Mounting



Level Control Relay

Wiring Diagram



A1,A2 : Supply voltage

Max : High level

Min : Low level

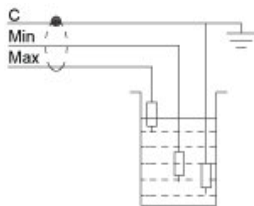
C : References or Tank earth electrode

11-14,12 : 1st C/O contact of output relay

21-24,22 : 2nd C/O contact of output relay

Control by Electrodes

Wiring Diagram



A1,A2 : Supply voltage

Max : High level

Min : Low level

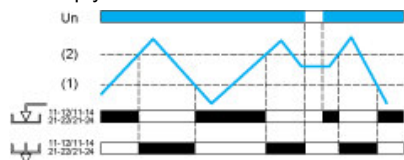
C : References or Tank earth electrode

11-14,12 : 1st C/O contact of output relay

Function Diagrams

Control of Two Levels

Fill/Empty function



Legend

Un Supply voltage

(1) Min. level

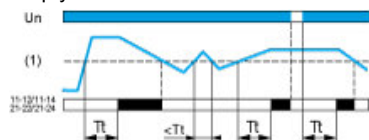
(2) Max. level

11-12/11-14, 21-22/21-24 Output relay connections

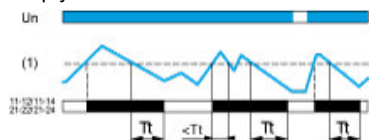
Relay status: black color = energized.

Control of One Level

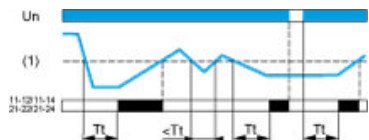
Empty function T on



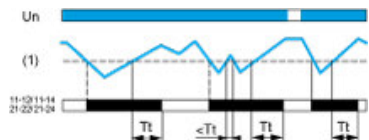
Empty function T off



Fill function T on



Fill function T off



Legend

Tt Time delay after crossing of threshold

Un Supply voltage

(1) Level threshold

11-12/11-14, 21-22/21-24 Output relay connections

Relay status: black color = energized.