Modules for control systems

Potentiometer modules
In control systems, units are often used which require analog control signals (i.e. 0…10 V DC). This signal can either originate from an analog card, or via a potentiometer (voltage distributor). Frequency inverter or proportional control electronics are examples of these applications.
Murrelektronik potentiometer modules MPOT for set-point adjustment can be snapped onto 35mm DIN-rail. Complex and time consuming improvisation disappears.
270° potentiometer or 3600° (10-turn) potentiometer for fine adjustment are available. Power supply is 24 V DC (with integrated resistor) or via a 10 V DC terminal.

Diode modules
For use within the control panel, these modules are for DIN-rail mounting and have screw terminal connections. Diode modules are available for use in the suppression of inductive loads. Other types of diode modules are available for logic, lamp test etc.

Assembly modules
Consisting of a printed circuit board with screw termninals and solder tags, these modules are intended for assembly by the user of components, circuit etc. They may be open or fitted with a plastic cover. The MVCO housing option has a P.C.B. grid into which components may be fitted.

LED indicators
For status indication, Murrelektronik offers a range of LED indicators. Versions are available for use on 24, 110 or 230 V without the need of external components, e.g. resistors.
For front panel mounting, the indicators are made with black or chrome bezels and connection is by fast-on lugs.
Single color and 2 color options are available with built-in lamp test diode on some versions.

Potentiometer modules

MPOT
With these practically designed potentiometer modules, it is simple, cheap and easy to solve your set-point problems.
Standard versions are potentiometers with 270° turn or with 10-turn (3600°).
Snap on to 35mm DIN-rail to EN 60715.

from page 3.9.2

Diode modules

MKS-D, MKS-LDP, MKS-BCD
Diode modules with single diode outputs onto terminals or resp. commonly joined on one side.
For coupling or suppressor applications.
Pairs of joined diodes with common control for lamp test applications.
Diode logic to convert from hexadecimal in binary code or savings on PLC inputs.
Snap on to DIN-rail to EN 60715.

from page 3.9.5

Assembly modules

MKS-M, ML 14, MP
Assembly modules can be put together as desired.
Snap on to DIN-rail mounting to EN 60715.

page 3.9.7

LED-Indicators

IP65, IP40
LED-indicators are available in single color and voltage and 2 color options with built in lamp test diode on some versions.
LED-indicators 3 mm, 5 mm and 10 mm for front panel mounting in metal housing.

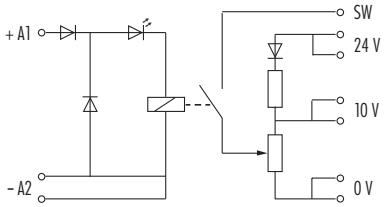
from page 3.9.8

270° and 10-turn Potentiometer with relay contact

MPOT-REL
Potentiometer for set-point adjustment
set-point via relay or can be switched off
270° potentiometer

MPOT-REL
Potentiometer for set-point adjustment
set-point via relay or can be switched off
3600° potentiometer /10-turn

Circuit diagram



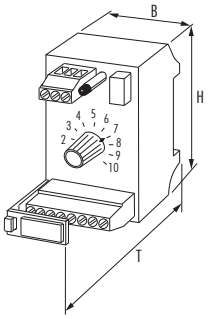
Ordering data	270° Art.-No.	10-turn Art.-No.
Potentiometer value		
1 k-Ohm	**67551**	**67561**
5 k-Ohm	**67555**	**67565**
10 k-Ohm	**67552**	**67562**
100 k-Ohm	**67553**	**67563**

Technical data		
Pot. resistance tolerance	± 20 %	± 5 %
Linearity	± 3 %	± 0.25 %
Power: potentiometer	1 W	1.4 W (2 W at 40 °C)
Power: resistor	0.25 W	
Control voltage/current	24 V DC/20 mA	
Contact material/relay	Pd Ni-Au Rh	
Switched current min./max.	1 mA/1 A	
Status indicator	green LED in control circuit	
Temperature range	0…+60 °C	
Mounting method	DIN-rail mounting EN 60715	
Dimensions H x B x T	75 x 45 x 65 mm	

Description

Murrelektronik potentiometer modules can be fitted with individual potentiometers and are available in 2 standard versions. The first version is a simple 270° potentiometer, the second a 10-turn potentiometer with fine adjustment. The module operates with 10 V or 24 V DC. A resistor reduces the voltage so that a 24 V DC voltage can be reduced to operate between 0…11 V. The connection is via terminals. A set-point can also be switched-on using an integrated relay and separate output. Many elements can be combined. The modules are for mounting on DIN-rail to EN 60715.

Dimension drawing



Notes

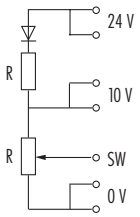
The 10-turn potentiometer has a decimal scale and locking lever.

270° and 10-turn Potentiometer

MPOT
Potentiometer for set-point adjustment
270° potentiometer

MPOT
Potentiometer for set-point adjustment
3600° potentiometer/10-turn

Circuit diagram



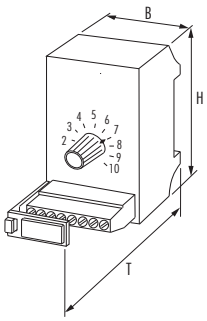
Ordering data	270° Art.-No.	10-turn Art.-No.
Potentiometer value		
1 k-Ohm	**67501**	**67511**
5 k-Ohm	**67505**	**67515**
10 k-Ohm	**67502**	**67512**
100k-Ohm	**67503**	**67513**

Technical data		
Pot. resistance tolerance	± 20 %	± 5 %
Linearity	± 3 %	± 0.25 %
Power: potentiometer	1 W	1.4 W (2 W at 40 °C)
Power: resistor	0.25 W	
Temperature range	0…+60 °C	
Mounting method	DIN-rail mounting EN 60715	
Dimensions H x B x T	75 x 45 x 65 mm	

Description

Murrelektronik potentiometer modules can be fitted with individual potentiometers and are available in 2 standard versions. The first version is a simple 270° potentiometer, the second a 10-turn potentiometer with fine adjustment. The module operates with 10 V or 24 V DC. A resistor reduces the voltage so that a 24 V DC voltage can be reduced to operate between 0…11 V. The connection is via terminals. The modules are for mounting on DIN-rail to EN 60715.

Dimension drawing



Notes

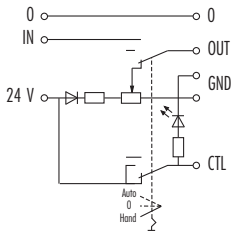
The 10-turn potentiometer has a decimal scale and locking lever.

10-turn Potentiometer for use in Building Management Systems

MPOT-H

Potentiometer for set-point adjustment
with HAND-0-AUTO slide switch and CTL-monitoring output

Circuit diagram



Ordering data	10-turn	Art.-No.
Potentiometer value		
1 k-Ohm		**67581**

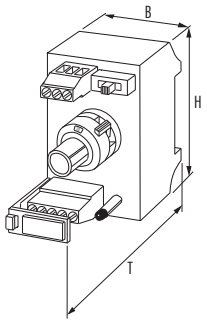
Technical data

Pot. resistance tolerance	± 5 %
Linearity	± 0.25 %
Power: potentiometer	1.4 W (2 W bat 40 °C)
Power: resistor	0.25 W
Control voltage	24 V DC
Switched current min./max.	5 mA/300 mA
Status indicator	yellow LED if CTL active (switch "HAND" or "0" position)
Temperature range	0…+60 °C
Mounting method	DIN-rail mounting EN 60715
Dimensions H x B x T	75 x 45 x 65 mm

Description

Murrelektronik MPOT-H modules are fitted with a HAND-OFF-AUTO slide switch. The analog output from, for example, a DDC is connected to the IN terminal and, if the slide switch is in the AUTO position, appears on the OUT terminal. When the slide switch is in the 0 (off) position the signal is removed from the OUT terminal. In the HAND position, which is supplied by 24 V DC, an analog signal can be manually set by means of the potentiometer. The slide switch position at "0" or "HAND" 24 V or CTL spring clamp terminals can be used as a signal.

Dimension drawing



Notes

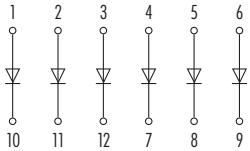
The 10-turn potentiometer has a decimal scale and locking lever.

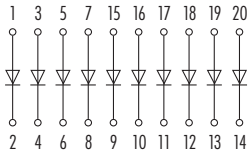
DIN-rail mounting diode modules

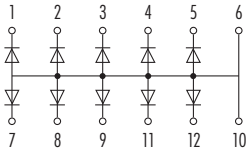
MKS-D
individually wired to screw terminals

MKS-D
diodes with common potential

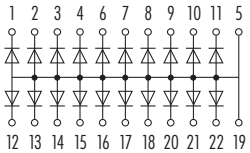
Circuit diagram







Picture:
com. potential anode



Ordering data		Art.-No.	Art.-No.
Circuit	No. of diodes		
Single	6	**67063**	
Single	10	**67066**	
Com. potential anode	10		**67040**
Com. potential anode	20		[1] **67052**
Com. potential cathode	10		**67045**
Com. potential cathode	20		**67057**

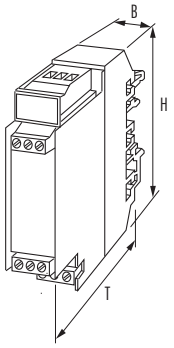
Technical data	
Diode type	universal diode 1300 V, 1 A
Wiring method	screw terminals 4 mm²
Temperature range	-20…+60 °C
Mounting method	DIN-rail mounting to EN 60715 (TH35) or (G32)

Description

diode modules are also available for the suppression of inductive loads (valves, contactors, motors etc.)

Dimensions H x B x T				
	86 x 22.5 x 62 mm	67063	86 x 22.5 x 62 mm	67040
	86 x 45 x 62 mm	67066	86 x 45 x 62 mm	67052
			86 x 22.5 x 62 mm	67045
			86 x 45 x 62 mm	67057

Dimension drawing



Notes

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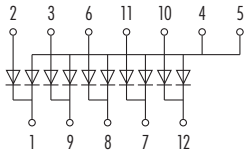
DIN-rail mounting diode modules

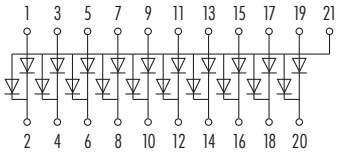
MKS-LDP
diodes wired in pairs with common potential

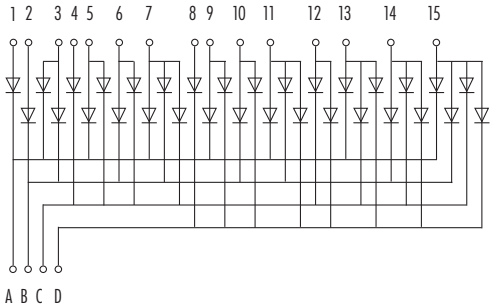
MKS-BCD
diode logic for converting hexadecimal into binary numbers

Circuit diagram



Picture:
Com. potential anode





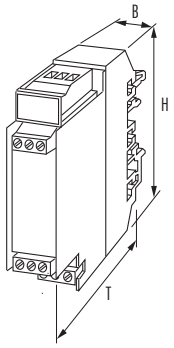
Ordering data		Art.-No.	Art.-No.
Circuit	No. of diodes		
Com. potential anode	5 pairs	**67072**	
Com. potential anode	10 pairs	**67096**	
			67079

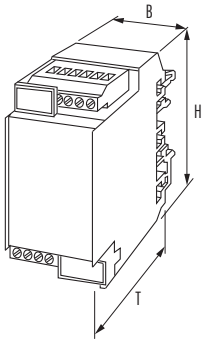
Technical data		
Diode type	universal diode 1300 V, 1 A	
Wiring method	screw terminals 4 mm²	
Temperature range	-20…+60 °C	
Mounting method	DIN-rail mounting to EN 60715 (TH35) or (G32)	

Description		
	diode gathered for lamp test function	diodes gathered to convert hexadecimal to binary numbers

Dimensions H x B x T		
	86 x 22.5 x 62 mm 67072	86 x 67.5 x 62 mm 67079
	86 x 45 x 62 mm 67096	

Dimension drawing





Notes

MURR ELEKTRONIK

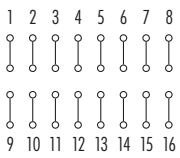
Assembly modules for self-wiring of components

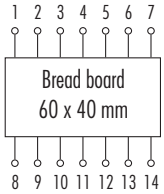
MKS-M
screw terminals
connected to solder tag pairs

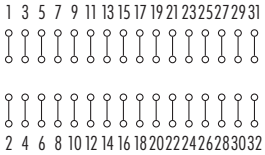
ML 14
MCVO housing 14-pole
with bread board

MP
screw terminals
connected to solder tag pairs

Circuit diagram





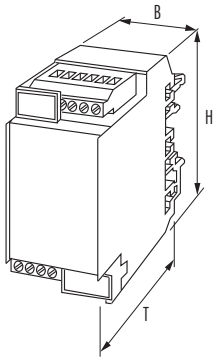


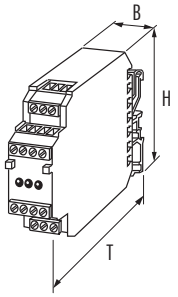
Ordering data	**Art.-No.**	**Art.-No.**	**Art.-No.**
Pairs of solder pins			
4	**67081**		
6			**62001**
6			[1] **62030**
8	**67083**		
12			**62010**
14		**92200**	
16			**62020**

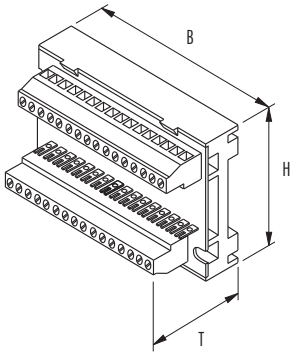
Technical data			
Voltage	max. 250 V AC/DC		
Current	max. 5 A Art.-No. 67081: 2.5 A		
Dist. between tag pairs	40 mm Art.-No. 67081: 30 mm	–	24 mm
Wiring method	screw terminals 4 mm²; connected to solder tag pairs spacing 5 mm		
Material	flame retardant plastic		
Housing	enclosed	MCVO housing, enclosed	open construction
Temperature range	-20…+60 °C		
Mounting method	DIN-rail mounting to EN 60715 (TH35) or (G32)		DIN-rail mounting to EN 60715 (TH35) or (G32) or screw fixing

Dimensions H x B x T					
	86 x 22.5 x 62 mm	67081	75 x 22.5 x 102 mm	92200	63 x 45 x 36 mm	62001
	86 x 45 x 62 mm	67083			90 x 63 x 36 mm	62030
					63 x 70 x 36 mm	62010
					63 x 90 x 36 mm	62020

Dimension drawing





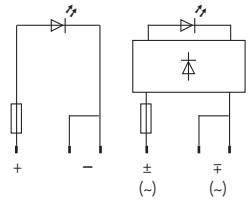
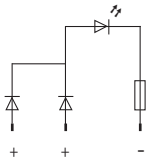
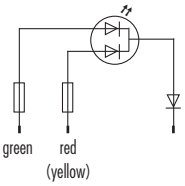


Notes

[1] Art.-No. 62030 has a spacing between solder tags of 50 mm.

MURR ELEKTRONIK

LED indicators for front panel mounting

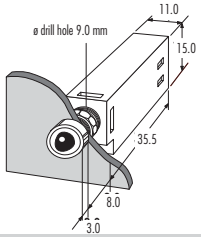
	LED plastic housing	**LED** plastic housing with lamp test input	**LED 2F** 2 color LED in plastic housing	
				
Circuit diagram	 Art.-No. 716012			

Ordering data		**Art.-No.**	**Art.-No.**	**Art.-No.**	**Art.-No.**
Voltage	LED-color				
24 V	red	**71261**	**71361**		
	yellow	**71271**	**71371**		
	green	**71281**	**71381**		
	blue	24 V DC **716012**			
	red/green			**71250**	
	yellow/green			**71255**	
110 V	red	**71267**			
	yellow	**71277**			
	green	**71287**			
230 V	red	**71269**			
	yellow	**71279**			
	green	**71289**			
	blue	**716015**			

Technical data						
Voltage	24 V AC/DC	±15 %	24 V DC	±15 %	24 V DC	±15 %
	110 V AC/DC	±15 %	–		–	
	230 V AC	±10 %	–		–	
Current supply	10 mA each LED					
LED	Ø 5 mm					
Connection	Faston 2.8 x 0.8 mm					
Protection to IEC529 (DIN 40050)	IP65					
Temperature range	-20…+50 °C					
Housing	flame retardant plastic					

Accessories	**Art.-No.**
Mounting key for plastic nut	**71998**
Metal front nut	**71991**
Blind plug	**71995**

Assembly/Dimension drawing



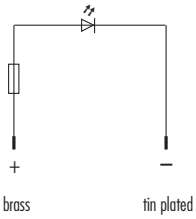
Notes

The LED modules are suitable for wall thickness between 1.5 and 5.0 mm.

LED indicators for front panel mounting

	LED 3 M	LED 5 M	LED 10 M
	metal housing	metal housing	metal housing

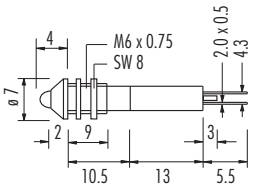
Circuit diagram

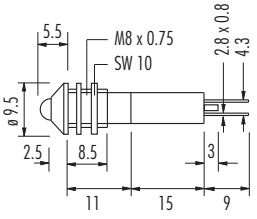


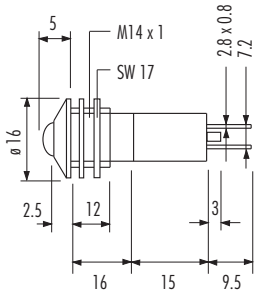
Ordering data		Art.-No.	Art.-No.	Art.-No.
Voltage	LED-color			
24 V DC ±10 %	red Ø 3 mm	**71403**		
	yellow Ø 3 mm	**71423**		
	green Ø 3 mm	**71443**		
24 V DC ±10 %	red Ø 5 mm		**71405**	
	yellow Ø 5 mm		**71425**	
	green Ø 5 mm		**71445**	
24 V DC ±10 %	red Ø10 mm			**71410**
	yellow Ø10 mm			**71430**
	green Ø10 mm			**71450**

Technical data			
Current supply	20 mA each LED		
LED	Ø 3 mm	Ø 5 mm	Ø 10 mm
Connection	Faston 2.0 x 0.5 mm	Faston 2.8 x 0.8 mm	
Protection to IEC 529 (DIN 40050)	IP40		
Temperature range	-30…+70 °C		
Housing	brass, chrome plated		
Dimension	Ø 7 x 33 mm	Ø 9.5 x 40 mm	Ø 16 x 45 mm
Front panel hole diameter	Ø 6 mm	Ø 8 mm	Ø 14 mm

Dimensioni drawing







Notes

+ connection brass, – connection tin plated