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Automatic microprocessor 10-way channel selector, PLC-compatible

Brief description

The channel selector uses reed relays to switch either ten 2-pole or five 4-pole measurement signals to any indicating or evaluating instrument. Up to ten selectors can be cascaded so that a maximum of 99 channels can be switched on 2 poles. The 3-digit 7-segment LED display indicates the channel number in normal operation, or the parameters during parameter operation.

Numerous functions, such as selection between automatic and manual switching, can be activated through logic inputs (0/24V or floating contacts).

The number of the current channel is available in BCD code as 8-bit information at 24V level. In conjunction with the strobe signal this permits preparation of reports on a numerical printer. The channel can also be selected with a BCD signal. It is possible to choose between time overlap and dead time between the switch-on times of two channels.



Type MST10-48/2, auto

Type designation

MST10-48/2, auto	
MST	channel selector
10	10 channels per selector (can be cascaded up to 99 channels)
-48/2	size 96mm x 48mm
auto	automatic switching

Extra Codes

AC 110	supply 110V AC 48 — 63Hz
DC 24	supply 24V DC

Standard accessories

- 2 mounting brackets
- 2 connectors
- 1 Operating Instructions

Accessory

FK/50, aka-2	adapter for circuit board connector with screw terminals
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Technical data

Number of channels
Up to 10 channels with 2-pole switching or 5 channels with 4-pole switching

Cascading
up to 10 selectors so that 99 channels can be switched on 2 poles

Relays
2-pole reed relays
contact material Ru/Rh
contact resistance 150mΩ max.

Contact loading
rating 10VA (W)
switching voltage 100V AC max.
switching current 0.1A max.
continuous current limit (when not being switched) 0.2 A

Control inputs

- reset, stop, continue
- manual, single cycle, auto
- BCD input for external channel selection

Control signals

- 0/24V (for PLC)
- floating contact, 10msec min. pulse time (5msec contact bounce suppression)

Control outputs

- BCD output for channel number
- strobe for data transfer (goes to logic 0, 100msec before channel is switched)

Case
plastic

Dimensions

96mm x 48mm x 133mm

Protection

front IP40,
rear IP00,
CE mark

Indication

7-segment 14mm
channel indication 1 — 99
cycle time indication: 0.2 — 100sec
1-digit part program indication

Switching function

- manual
- single cycle
- automatic

Switching transition (programmable)

overlapping:
the contact sets of two channels are simultaneously closed for approx. 15 msec.
separating:
the contact sets of two channels are both open for approx. 15 msec.

Supply

normally:
230V +10/-15% AC 48 — 63Hz
extra Code:
110V +10/-15% AC 48 — 63Hz
24V +15/-15% DC
(no isolation)

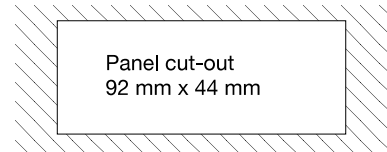
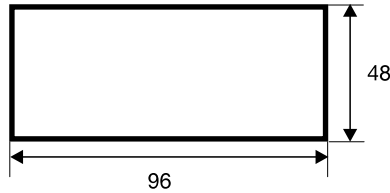
Power consumption

6 VA (W) approx.

Electrical connection

12-pin connector with screw terminals, Phoenix Type MVSTBW 2,5/12-ST and 50-way direct circuit-board connector with solder terminals, Alfa Selectra Type 5 131 225 291 or adapter FK 50

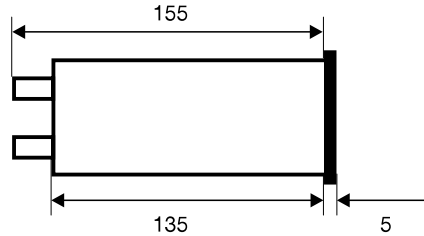
Dimensions



Accessory

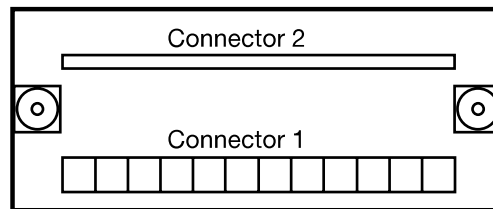
Adapter FK/50, aka-2

The adapter is placed on connector 2 of the channel selector. The ribbon cable is 0.5 m long and terminates in a 50-way screw-terminal connector which can be mounted on standard rails. It is suitable for wire up to 2.5 mm² cross-section.



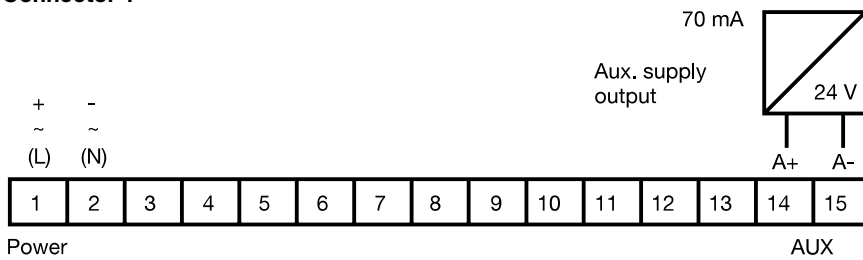
mm	inch
5	0.20
44	1.73
48	1.89
92	3.62
96	3.78
135	5.31
155	6.10
0.5 m	20

Rear view



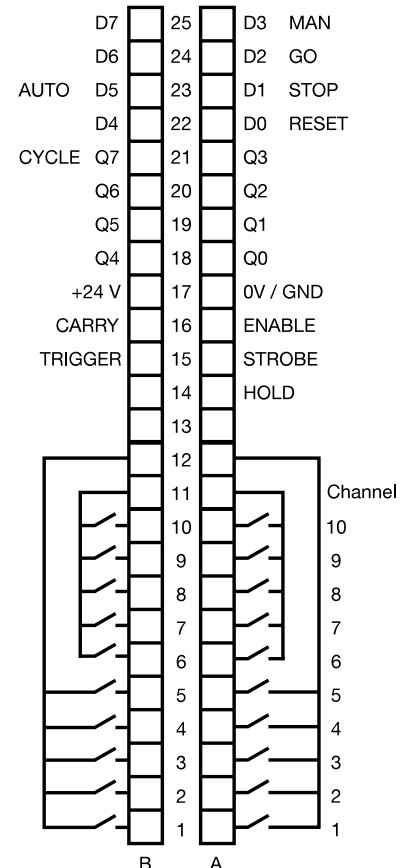
Connection diagrams

Connector 1



Connector 2

Contact	Function
A1 - A12	switch-over contact of reed relays
A14	HOLD channel activation
A15	strobe signal, data clear for external evaluation instrument
A16	ENABLE signal
A17	GND, reference potential
A18 - A21	BCD output Q0 – Q3 for external channel indication
A22	BCD input D0 for external channel selection or RESET control input
A23	BCD input D1 for external channel selection or STOP control input
A24	BCD input D2 for external channel selection or GO control input
A25	BCD input D3 for external channel selection or MAN control input
B1 - B12	changeover contacts of reed relays
B15	trigger signal, activation of cyclic switching
B16	carry signal, transfer to the next channel selector
B17	+24V
B18 - B21	BCD output Q4 – Q7 for external channel indication
B22	BCD input D4 for external channel selection or CYCLE control input
B23	BCD input D5 for external channel selection or AUTO control input
B24 - B25	BCD input D6 – D7 for external channel selection



A = circuit board top side
B = circuit board underside