- **Electronic cam switch unit**
- **Cycle 0 ... 999 adjustable in steps of 10**
- **Adding/subtracting**
- **LED indicator, red**

CE

Additional features

- **Counting frequency 5 kHz**
- **8 outputs**
- **Incremental input signal**
- **Memory structure matrix 8 x 1000**
- **8 tracks with max. 500 cams**
- **Counting range adjustable in steps of 10, from 10 ... 1000**
- **Shock resistance in accordance with DIN EN 60068-2-27**
- **Vibration resistance in accordance with DIN EN 60068-2-6**

Operating principle

The FT-11-V operates in association with an incremental rotary encoder as an electronic cam switch unit for linear and rotary motion. The operating cycle can be adjusted in steps of 10 between 10 and 1000. Depending on the operating cycle, up to 500 cams can be set on the 8 tracks. The outputs are used to initiate the operating elements (Solenoid valves, relays, etc.) on the machine that is to be controlled, in accordance with the operating cycle and to establish the interface with higher level systems (SPS, etc.)

In addition, the FT-11-V can be used as a multi-preset counter with 8 outputs, and as a positioning control.

When used as a positioning control, the outputs are used to initiate the drive (change in the direction of motion or change in speed) and to initiate actuating devices.

Technical data

General data	
Counting range	0 ... 999 adding/subtracting
Counting frequency	5 kHz
Counter inputs	addition/subtraction or 90° phase shift (adjustable using jumper, terminal 4 - terminal 5)
Data storage	5 years, Lithium battery
Operating modes	
READ	to check the program
WRITE	to enter the program
RUN	device in operation
Controls and indicators	
Type	red LED
Number of decade devices	3
Digit height	12 mm
RUN (Device active)	"RUN" LED lights during RUN operation
Battery (Alarm)	battery voltage < 2.5 V (battery replacement)
Outputs 1 ... 8	8 LEDs for the On/Off status
Selection of operating modes	via key-operated switch
Inputs	
Input impedance	2.3 kΩ
Input voltage	low: 0 ... 6 V DC, high: 16 ... 30 V DC
Delay times	
Reset input (On/Off)	≤ 0.1 ms/≤ 0.1 ms
Stop input (On/Off)	≤ 30 ms/≤ 30 ms (for inhibiting the outputs)
Delay time on the DC output	≤ 0.2 ms
Outputs	
Transistor output	PNP, normally-open collector 24 V DC, 100 mA, voltage drop < 2 V at 100 mA
Electrical data	
Voltage	90 ... 132/180 ... 264 V AC, 50 ... 60 Hz
Power consumption	30 VA
Output voltages	10 ... 30 V DC, external
Power supply for sensor	24 V DC ± 15 %, 100 mA, ripple ≤ 3 %
Ambient conditions	
Ambient temperature	0 ... 50 °C
Storage temperature	-10 ... 50 °C
Relative air humidity	45 ... 85 % (non-condensing)
Mechanical data	
Weight	920 g
Dimensions (L x H x D)	144 x 72 x 143 mm
Plug-in base (ordered separately)	KF-12A, KB-12-0
Connection	plug-in screw terminals
Maximum permissible core cross-section	0.34 ... 1.5 mm²

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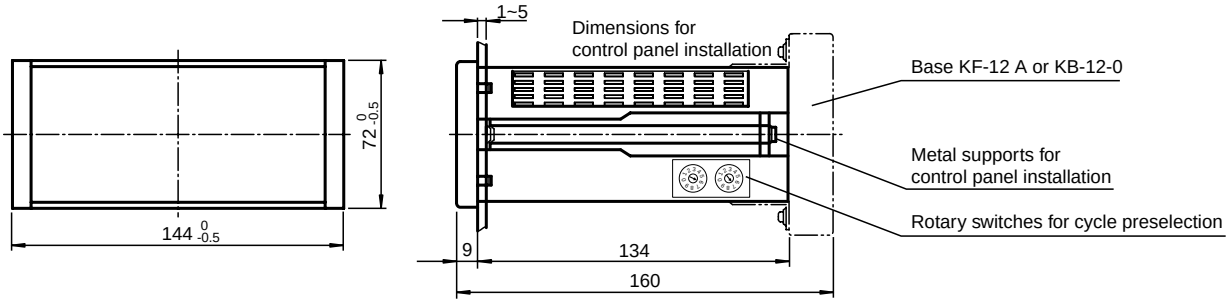
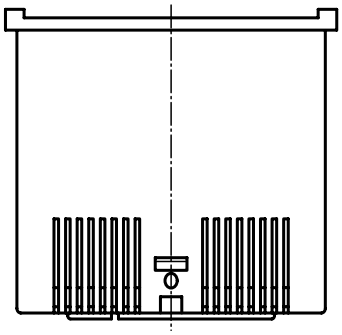
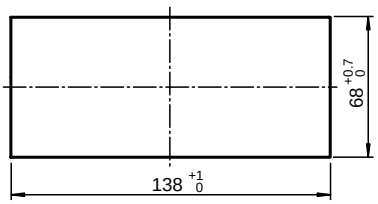
Dimensions

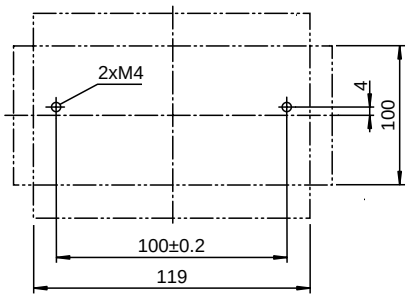




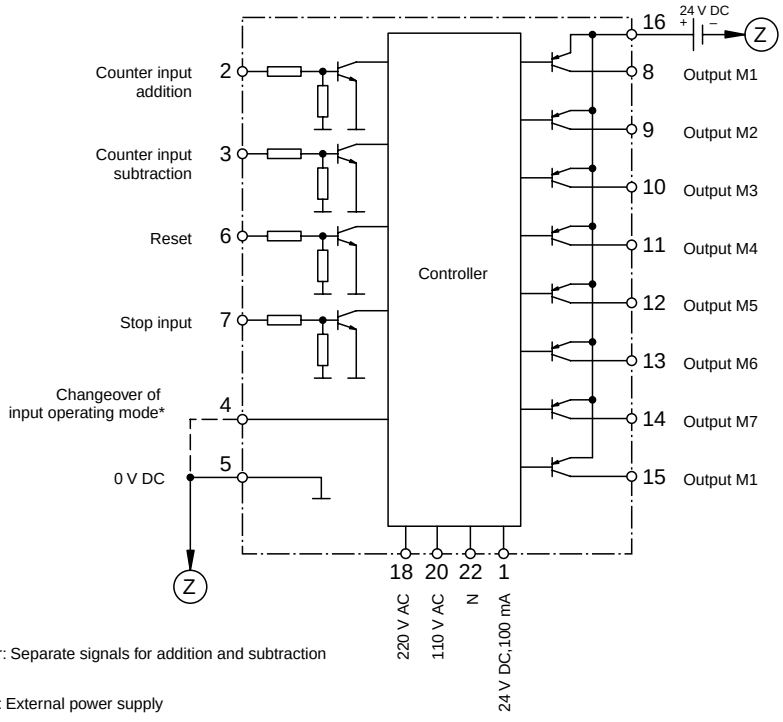
Dimensions for control panel cut-out



Details of holes in mounting base KF-12 A



Electrical connection

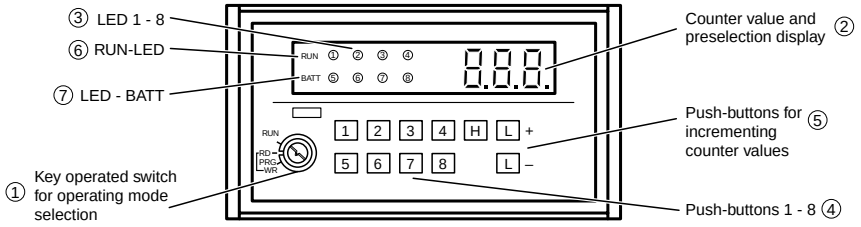


* With jumper: Separate signals for addition and subtraction

24 V DC : External power supply

Issue date 14.06.2000

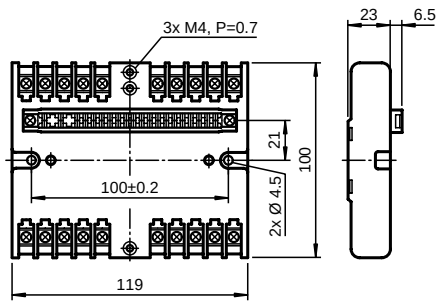
Controls and indicators



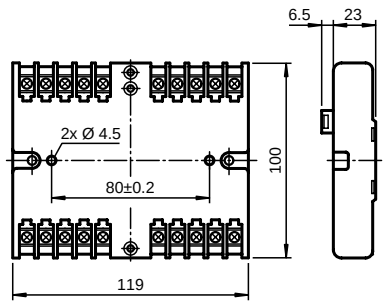
Item	Description	Operating mode	Function
1	Key-operated switch for selection of operating mode		
2	Counter value/pre-selected value indication	WRITE/READ	Indication of pre-selected values
		RUN	Indication of counter value
3	LED 1 ... LED 8	WRITE/READ	Status of the 8 outputs with indication of pre-selected value
		RUN	Status of the 8 outputs with indication of pre-selected value
4	Button 1 ... Button 8	WRITE	For setting/re-setting the outputs with indicated pre-selected value
5	Counter value button H+	WRITE/READ	Brief actuation: Increases counter value by 1 Prolonged actuation: Increases counter value rapidly
	Counter value button L+	WRITE/READ	Brief actuation: Increases counter value by 1 Prolonged actuation: Increases counter value slowly
	Counter value button L-	WRITE/READ	Brief actuation: Increases counter value by 1 Prolonged actuation: Increases counter value rapidly
6	LED-RUN	RUN	LED lights, when the STOP input is at the L level and the device is ready for operation.
7	LED-BATT	RUN/READ/ WRITE	LED lights, when the battery voltage is less than 2.5 V. (Replace battery)

Accessory: Plug-in base

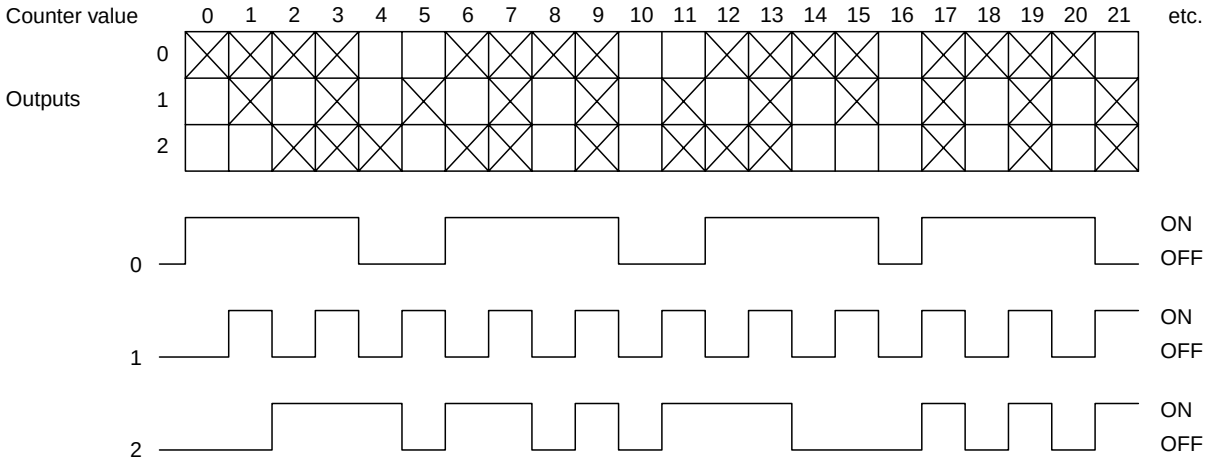
KF-12 A



KB-12-0



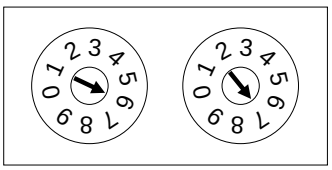
Issue date 14.06.2000



Counting on one cycle of the FT-11-V electronic cam-operated switching device of 1000 :

Addition: ...,997, 998, 999, 0, 1, 2, 3, ...
Subtraction: ..., 3, 2, 1, 0, 999, 998, 997, ...

The cycle can be set with two decade switches in steps of 10.



Counting on one cycle of the FT-11-V electronic cam-operated switching device of 670:

Addition: ...,667, 668, 669, 0, 1, 2, 3, ...
Subtraction: ..., 3, 2, 1, 0, 669, 668, 667, ...

Issue date 14.06.2000