

MCX II

Standard Specification



MEASURE

Input	Range	1 Year Accuracy	Resolution	Remarks
MV	0 ... 100 mV	0.004% + 0.004%	0.001	R – input > 20 M Ohm
(autoranging)	100 ... 600 mV	0.005% + 0.005%	0.01	
V	0 ... 6 V	0.009% + 0.003%	0.0001	R – input > 1 M Ohm
(autoranging)	6 ... 60 V	0.009% + 0.003%	0.001	
mA	0 ... 52 mA	0.010% + 0.003%	0.001	R – input > 2.5 Ohm fused
Ohms	0 ... 400 Ohm	0.010% + 0.005%	0.01	at 0.9 mA excitation
(autoranging)	400 ... 2000 Ohm	0.010% + 0.005%	0.1	R – input > 300 k Ohm
Frequency	0 ... 655 Hz	0.01 Hz	0.01	R – input > 300 k Ohm
(autoranging)	655 ... 1310 Hz	0.1 Hz	0.1	R – input > 300 k Ohm
Counts/minute	1310 ... 10,000 Hz	1 Hz	1	R – input > 300 k Ohm
Counts/hour	0 ... 6 x 10 ⁶	1 c/min.	1	R – input > 300 k Ohm
Totalizing counter	0 ... 10 ⁷ - 1	1 c/hour	1	R – input > 300 k Ohm
	0 ... 10 ⁸ - 1	infinite	1	R – input > 300 k Ohm

Accuracy (% of reading + % of range + 1 LSD)

SOURCE

Output	Range	1 Year Accuracy	Resolution	Remarks
MV	-10 ... 100 mV	0.003% + 0.004%	0.001	R – output < 0.2 Ohm
V	0 ... 12 V	0.004% + 0.002%	0.0001	R – output < 0.2 Ohm
MA	0 ... 24 mA	0.012%	0.001	R – max 900 Ohm
Ohms	0 ... 400 Ohm	0.005% + 0.008%	0.01	at 1 mA excitation
	0 ... 2000 Ohm	0.010%	0.1	at 1 mA excitation
Pulse	0 ... 10 ⁸ - 1	infinite	1	0 ... 24 V/ 34 mA max.
Frequency	0 ... 100 Hz	0.01 Hz	0.01	0 ... 24 V/ 34 mA max.
	0 ... 10,000 Hz	1 Hz	1	0 ... 24 V/ 34 mA max.
pulses/min	0 ... 6000	1 p/min	1	0 ... 24 V/ 34 mA max.
pulses/hour	0 ... 99,999	36 p/hour	1	0 ... 24 V/ 34 mA max.

Accuracy (% of reading + % of range + 1 LSD)

TEMPERATURE

RTD	Range	1 Year Accuracy		Resolution
		Measure	Source	
Pt1000 ①	-200 ... 400 °C	0.1 °C	0.1 °C	0.1 °C
Pt500	-200 ... 850 °C	0.1 °C	0.1 °C	0.1 °C
Pt200 ①	-200 ... 850 °C	0.2 °C	0.3 °C	0.1 °C
Pt100 ①	-200 ... 850 °C	0.15 °C	0.12 °C	0.03 °C
Pt50 ①	-200 ... 850 °C	0.25 °C	0.2 °C	0.06 °C
D-100 ②	-200 ... 649 °C	0.15 °C	0.12 °C	0.03 °C
Ni 100 ③	-60 ... 250 °C	0.1 °C	0.1 °C	0.1 °C
Ni 120 ④	-80 ... 260 °C	0.1 °C	0.1 °C	0.1 °C
Cu10 ⑤	-200 ... 260 °C	1.0 °C	1.5 °C	0.3 °C

① = IEC 751, ② = JIS 1604-1989, ③ = DIN 43760, ④ = MINCO 7, ⑤ = MINCO 16-9

T/C	Range	1 Year Accuracy		Resolution
		Measure	Source	
J ①	-210 ... 1200 °C	0.1 °C	0.1 °C	0.1 °C
L ②	-200 ... 900 °C	0.1 °C	0.1 °C	0.1 °C
K ③	-270 ... 1372 °C	0.1 °C	0.1 °C	0.1 °C
T ④	-270 ... 400 °C	0.1 °C	0.1 °C	0.1 °C
U ⑤	-200 ... 600 °C	0.1 °C	0.1 °C	0.1 °C
B ⑥	50 ... 1820 °C	0.4 °C	0.4 °C	0.1 °C
R ⑦	-50 ... 1769 °C	0.5 °C	0.5 °C	0.1 °C
S ⑧	-50 ... 1769 °C	0.5 °C	0.5 °C	0.1 °C
E ⑨	-270 ... 1000 °C	0.1 °C	0.1 °C	0.1 °C
N ⑩	-270 ... 1300 °C	0.1 °C	0.1 °C	0.1 °C
C ⑪	0 ... 2320 °C	0.2 °C	0.2 °C	0.1 °C
D ⑫	0 ... 2495 °C	0.2 °C	0.2 °C	0.1 °C

① = IEC 584, ② = DIN 43710

Best case, Mid Range accuracies +1 LSD

Note: Internal cold junction compensation error +/- 0.2°C (± 0.4°F)

SPECIAL FEATURES

Temperature units

°C or °F

Temperature scales

IPTS 68 or ITS 90 selectable

Pressure units

10 units

Step

10 programmable, 10%, 20%, 25%. Manual step or adjustable timer

Ramp

Fully programmable travel time (up/down and dwell)

Scaling

5 digits and sign on all electrical ranges

Temperature transmitter calibration

Both input and output readings in temperature units
Calibration feature extended for all output functions

Temperature transmitter simulation

mA output reads in temperature units

Loop power

Dual 24Vdc Loop power supplies

Signal converter

Converts any input into any output, fully isolated

Keystroking

Storage for 10 user defined test configurations

Switch test

Display freezes on open and close action

Data storage

1 Mbyte of data storage - see option (A3)

Computer interface

RS 232 and PCMCIA card - see option (A3)

PCMCIA station

PCMCIA card type 1 or 2 - activated by option (A3)

Language

English, French, German, Italian, Portuguese and Spanish

Power management

Auto backlight OFF, battery low indicator

DISPLAY

Panel

2.6 in x 1.6 in Graphic LCD with backlight

Readout

Typically 5 readings/ second

ENVIRONMENTAL

Calibration reference

22°C +/- 1°C (72°F +/- 2°F), R.H. 45% +/- 15%

Accuracies

Accuracies true for 17°C to 27°C (60°F to 80°F). Outside these limits add 0.0005%/°C (0.00025%/°F) typically
Reference for all electrical parameters only.

Temperature

Operation: -10°C to 50°C (15°F to 120°F)

Humidity:

0 - 90% non condensing

Sealing

Generally to NEMA 12 (IP53)

Conformity

EN50081-1, EN50082-1, CE Marked

Physical

1.1 lb, 10.5 in x 6.3 in x 2.0/3.2 in

Power supply

6 x 1.5 V alkaline "C" cells 6 x 1.2 V Ni-Cad "C" cells