MT-FD FREQUENCY CONVERTER & ISOLATOR

FEATURE

- 10 popular Inputs and 4 popular Output Ranges Programmable by dip switches
- Modular Design, Easy Maintain and Save Stock;
- Changeable Output Module Between V/mA, Trip Relay with difference programming module
- Dual difference signal output available even for trip relay
- CE Approved

SPECIFICATION

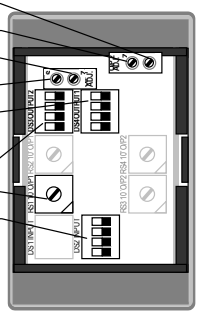
Input Range	Input Impedance	Output Range	Load Resistance
0 ~ 0.1 Hz	≥ 1M ohm	0 ~ 100 mV	≥ 100K ohm
0 ~ 1 Hz	≥ 1M ohm	0 ~ 1 V	≥ 50 ohm
0 ~ 10 Hz	≥ 1M ohm	0 ~ 5 V	≥ 250 ohm
0 ~ 20 Hz	≥ 1M ohm	0 ~ 10 V	≥ 500ohm
0 ~ 50 Hz	≥ 1M ohm	1 ~ 5 V	≥ 250 ohm
0 ~ 100 Hz	≥ 1M ohm	-10 ~ 0 ~ +10 V	≥ 1K ohm
0 ~ 200 Hz	≥ 1M ohm	0 ~ 1 mA	≤ 15K ohm
0 ~ 500 Hz	≥ 1M ohm	0 ~ 10 mA	≤ 1500 ohm
0 ~ 1K Hz	≥ 1M ohm	0 ~ 20 mA	≤ 750 ohm
0 ~ 2K Hz	≥ 1M ohm	4 ~ 20 mA	≤ 750 ohm
0 ~ 5K Hz	≥ 1M ohm		
0 ~ 10K Hz	≥ 1M ohm		
0 ~ 20K Hz	≥ 1M ohm		
0 ~ 50K Hz	≥ 1M ohm		

Accuracy: ±0.1% of F.S.
Response time: ≤ 250 msec. Plus one pulse cycle
Span adjustment: ≤ 10% of F.S.
Zero adjustment: ≤ 5% of F.S.
Input mode: Voltage pulse, Open collector, Mechanical contact (30 Hz maximum)
Pulse width: 10 msec. minimum at < 20 Hz
Duty ratio 20 ~ 80% at > 20 Hz
Input level: 5Vp/12Vp/24Vp/220Vac selectable by dip-switch
Output ripple: ≤ 0.1% of F.S.
Excitation supply: DC 10V/24V,40mA Changeable by dip switch
Power Supply: AC 115 or 230V ±10%, 50/60 Hz
Changeable by jumper inside
Option: DC 12V, 24V, 48V ±10%, (Isolated)
Power consumption: DC 5W, AC 6.5VA
Option range: Ultra-low frequency: 0 ~ 0.1 Hz
Ultra-high frequency: 0 ~ 50K/100K Hz
Relay contact: AC 110V/5A, 220V/2A, Normal Open
Operating temperature: 0~60 °C
Operating relative 20~95 %RH, non-condensing
Temperature coefficient: ≤ 100 PPM/°C
Storage temperature: -10~70 °C
Isolation: Between Power / Input / Output1 / Output2
Insulation resistance: ≥ 100M ohm at 500Vdc
Surge test: 4 KV, 1.2 x 50 μ sec.
Common mode & differential mode

Dielectric Strength: AC 2.0 KV for 1 min
Between Power / Input / Output / Case
Standard: Comply with EN50081-1, EN50082-2
Dimensions: 50mm(W) x 87mm(H) x 123mm(D)-with socket
Mounting: Surface and DIN rail 35mm wide
Weight: 500g

ADJUSTMENT

1. O/P 2 Span Adjust Pot (Clockwise: o/p2 increase)
2. O/P 2 Zero Adjust Pot (Clockwise: o/p2 increase)
3. O/P 1 Zero Adjust Pot (Clockwise: o/p1 increase)
4. O/P 1 Span Adjust Pot (Clockwise: o/p1 increase)
5. DS4: Programming for O/P 1 / 4 Ranges (by Dip-Switch)
6. DS3: Programming for O/P 2 / 4 Ranges (by Dip-Switch) or selecting for excitation supply / 2 Ranges (DC 24V: Dip-Switch 1&2 ON; DC 10V: Dip-Switch 3&4 ON)
7. RS1: Programming for I/P / 10 Ranges (Rotary-Switch)
8. DS2: Select for Input Level / 4 Ranges (by Dip-Switch)



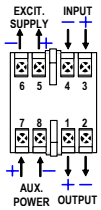
* MT-FD IS ONLY SINGLE OUTPUT WITH EXCITATION SUPPLY. IT COULD BE SPECIFIED IN DUAL OUTPUT, WHEN EXCITATION SUPPLY WAS REMOVED.

PROGRAMMING FOR INPUT AND OUTPUT:

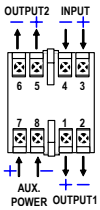
INPUT RANGE			INPUT LEVEL		OUTPUT SIGNAL	O/P1	O/P2
J1 Close	J1 Open	RS1 (7)		DS2 (8)		DS4 (5)	DS3 (6)
0 ~ 1 Hz	0 ~ 10 Hz	0	5 Vp		1 ~ 5 V		
0 ~ 2 Hz	0 ~ 20 Hz	1					
0 ~ 5 Hz	0 ~ 50 Hz	2	12 Vp		0 ~ 10 V		
0 ~ 10 Hz	0 ~ 100 Hz	3					
0 ~ 20 Hz	0 ~ 200 Hz	4	24 Vp		0 ~ 20 mA		
0 ~ 50 Hz	0 ~ 500 Hz	5					
0 ~ 100 Hz	0 ~ 1K Hz	6	220 Vac		4 ~ 20 mA		
0 ~ 200 Hz	0 ~ 2K Hz	7					
0 ~ 500 Hz	0 ~ 5K Hz	8					
0 ~ 1K Hz	0 ~ 10K Hz	9					

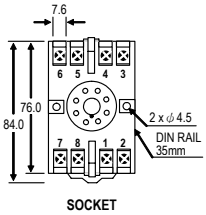
CONNECTION DIAGRAM & SOCKET

MT-FD WITH Analogue O/P & Excit. Supply



MT-FD WITH Dual Analogue O/P





Remark:
➢ When you select coding P0, P1 or P for input and output range, please specify initial range.
➢ After change input or output range by rotary or dip switches (R-S or D-S), re-calibration is to be requested.

ORDERING INFORMATION

MT-FD [Output Loop] — [Input Range] [Input Mode] — [Output1 Range] [Output2 Range] — [Aux. Power]

CODE	OUTPUT LOOP
1	Single Output
2	Dual Output
The excitation supply was removed when you select dual o/p mode.	

CODE	INPUT	CODE	INPUT
P0	J1 Close: Programmable 1 ~ 1K Hz 10 ranges (please specify)	H1	0 ~ 0.1 Hz
		H2	0 ~ 20K Hz
		H3	0 ~ 50K Hz
		HO	Specify(Hz)
P1	J1 Open: Programmable 10 ~ 10K Hz 10 ranges (please specify)		

Input Mode

CODE	INPUT MODE
OC	Open collect
MC	Mech. contact
V	Volt pulse
05	5 Vp
12	12 Vp
24	24 Vp
22	220 Vac
VO	Specify

Current

CODE	OUTPUT
A	0 ~ 1 mA
B	0 ~ 10 mA
C	0 ~ 20 mA(*P)
D	4 ~ 20 mA(*P)
I	Specify (mA o/p)
V	Specify (Vo/p)
P	Programmable 4 ranges(by D-S)

Voltage

CODE	OUTPUT
1	0 ~ 100 mV
2	0 ~ 1 V
3	0 ~ 5 V
4	0 ~ 10 V(*P)
5	1 ~ 5 V(*P)
6	2 ~ 10 V
7	-10 ~ +10 V
N	None

Aux. Power

CODE	AUX. POWER
A1	AC 115 V
A2	AC 230 V
A3	AC 380 V
D12	DC 12 V
D24	DC 24 V
D48	DC 48 V
DO	Specify DC
AO	Specify AC