



OS-System

PROGRAMMABLE MONITOR WITH MICROPROCESSOR

Type : **OS-M-DWT-D**

The precision microcontroller based speed monitoring unit with display is field-set to match different motor speeds ranging between 0.06 - 599940 RPM. Setting of the trip speed is through switches located on the top of the unit. Inbuilt software timer is incorporated for override/bypass, to allow the motor to come to full speed, before under speed sensing mode is actuated.

FEATURES:

- * Unit has switches which set the trip point between the ranges of 0.06 r.p.m. to 599940 R.P.M.
- * Manufactured according to European standard EN 50014 and EN 50020.
- * Intrinsically safe control circuit is galvanically isolated from both main input and output circuitry.
- * An adjustable start-up bypass.

INSTALLATION:

The unit can be clipped on to 35 mm rail to DIN 46277.

ART. NO. : ODD023WO - 24VDC

METHOD OF ACTUATION

- * N-type Proximity Switches.
- * Mechanical contact closure or push buttons or limit switches.
- * Passive switched transistor.

APPLICATION:

The unit is used to monitor overspeed, underspeed and zero speed in hazardous or non-hazardous areas on shafts, agitators, conveyors etc.

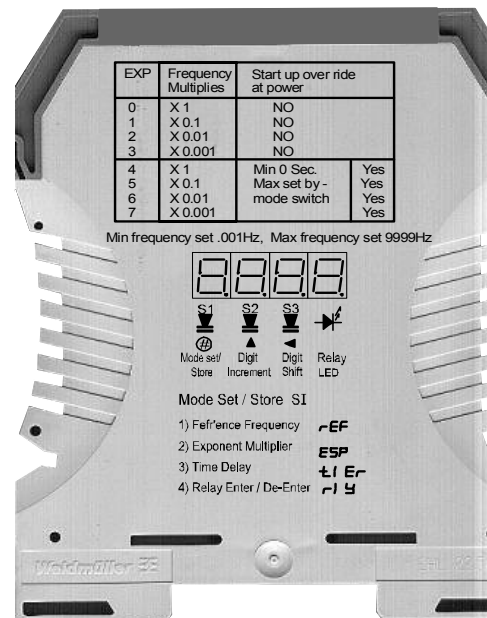
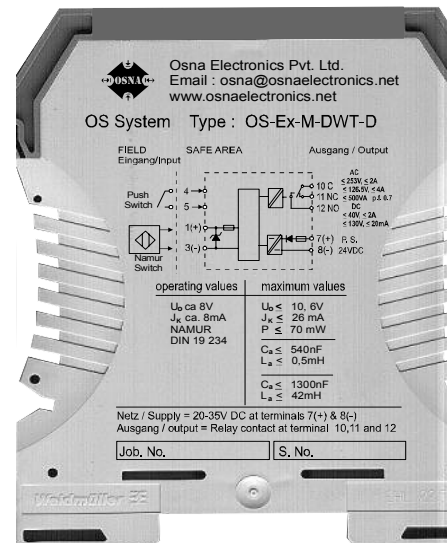
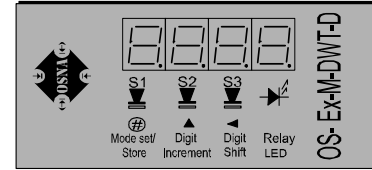
OPERATION:

Relay de-energises setting by mode S1 (r14D) when the input frequency increases the set frequency the relay energises or relay de-energises setting by mode S1 (r14E) relay energises

Settings : Three switches the S1 mode set , S2 increment and S3 shifting.

START UP OVERRIDE

Timer is initiated by linking terminals 4 & 5. It may be actuated by an external switch and the circuit is designed to be intrinsically safe.





Technical Details

OS-M-DWT-D

Power Supply

Supply Voltage	24VDC, +10%,
Current Consumption	approx. 2VA

Hazardous Area Section

Inputs (Intrinsically Safe)	
Nominal data	as per DIN 19234 equipment with suffix NAMUR
Open circuit voltage	approx. 8 V.DC
short circuit current	approx. 8 mA
Switching point / Hysteresis	1.2 mA...2.1 mA / \approx 0.2 mA
Lead breakage monitoring	J < 150uA

Output Voltage (max.)	10,6 VDC
Output Current (max.)	26mA
Output power (max.)	70mW

Permissible circuit values ignition protection class/

[EEx ia]

Explosion group	II C
Max. External Capacitance	540 μ F
Max. External Inductance	0,5 mH

Safe Area Section

Contact rating of relay	250 V / 4A / 500VA Cos ϕ > 0.7
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Weight	150 gm
Ambient Temperature	Max. 55°C



OS-System

EXP	Frequency Multiplies	Start up over ride at power	
0	X 1	NO	
1	X 0.1	NO	
2	X 0.01	NO	
3	X 0.001	NO	
4	X 1	Min 0 Sec.	Yes
5	X 0.1	Max set by -	Yes
6	X 0.01	mode switch	Yes
7	X 0.001		Yes

Relay set	Output Relay	
	-1 5 0	Overspeed
Underspeed		De-Energised
No Jumper -1 5 2	Overspeed	De-Energised
	Underspeed	Energised

Min frequency set .001Hz, Max frequency set 9999Hz

Setting up Frequency in (f) Hz can calculated by $F = n \times z \div 60$

Where in n = speed in revolutions per minute.

z = No. of Impulse (i.e. targets)

Let No. of Pulse per revolution = 5

Trip speed required = 5

$$f = \frac{60 \times 5}{60} = 5$$

If overspeed is to be monitor switch setting shall be in the order of 050.