

# VM-21P 3-WIRE LVDT SIGNAL CONDITIONER



Model Code

VM-21P  -  S  -

Power supply		Measuring range		Input LVDT		Full range of input LVDT		Output		Conditioner socket	
1	24VDC	20	25mm	S	LS Series	050	50mm	1	1 to 5VDC	0	Without
2	100 to 240VAC/DC	21	50mm			100	100mm	2	4 to 20mADC	1	Include
		22	75mm			150	150mm				
		23	100mm			200	200mm				
		24	150mm			250	250mm				
		25	200mm			300	300mm				
		26	250mm			350	350mm				
		27	300mm			400	400mm				
		28	350mm			450	450mm				
		30	400mm								
		31	450mm								

Standard

- Note) • Standard specifications, when measuring range and full range of input LVDT are the same.
- Satisfy the following when using LS Series LVDT :

$$1 \leq \frac{\text{Full range of input LVDT}}{\text{Measuring range}} \leq 2$$

- Satisfy the following when using single coil type LVDT except LS Series LVDT :

- 1) Impedance (between A and C)
 

At 50% (Null point)	500 to 700Ω
Within LVDT stroke	More than 400Ω
Core comes out	Less than 250Ω

- 2)  $4.33 \times \text{LVDT sensitivity (mV/mm/V)} \times \text{Measuring range (mm)} \geq 1,000$

- This signal conditioner does not support the zero shift function, so the null point is always the center position of measurement.

## SPECIFICATIONS

Input LVDT	LS Series
Measuring Range	See Model Code above
Output (isolated)	1 to 5VDC (output resistance: 250Ω) or 4 to 20mADC (permissible load resistance: 600Ω or less)
I/O Conversion Accuracy	±1% of F.S. at 25°C, ±2% of F.S. at 0 to 50°C Deviation from an ideal linear output of voltage or current in combination with LS Series LVDT. However, when measuring range and full range of input LVDT are the same.
Response Speed	$\tau=45\text{ms}$ , 90% response
Polarity	Can be changed by wiring
Burn-down Function *1	Detects transducer failure and causes the 4 to 20mADC (1 to 5VDC) output to go to less than 0.8mADC (0.2VDC).
T.P. Output (test point output for confirmation null point)	Output 0V when core position is on Null point. Output impedance: 100Ω
Output for LVDT Excitation	Voltage: 5Vrms, Frequency: 3kHz, Max. current: 50mA, Sine wave
Supply Permissible Voltage	24VDC±10% or 85 to 264VAC/DC (50/60Hz)
Power Consumption	24VDC: 3.5W, 100-240VDC: 3.5W, 100-240VAC: 10VA
Insulation Resistance	100 MΩ minimum at 500VDC between input-output-power-GND mutually.
Withstanding Voltage	2000VAC for one minute between input-output-power-GND mutually. (With VM-21H: 1,000VAC between output-GND.)
Operating Temperature	0 to 50°C (32 to 122°F REF.)
Relative Humidity	10 to 90%RH (no condensation)
Casing Material (color)	Modified polyphenylene oxide (black)
Weight	Approx. 110g (0.24lb)
CE Marking	Only as for 24VDC power supply specifications.

\*1 Abnormal condition

- When there is an abnormality in the LVDT or signal cable (breaking in LVDT wiring, breaking or short circuit in signal cable).
- When there is an abnormality in LVDT excitation output (oscillation has stopped).