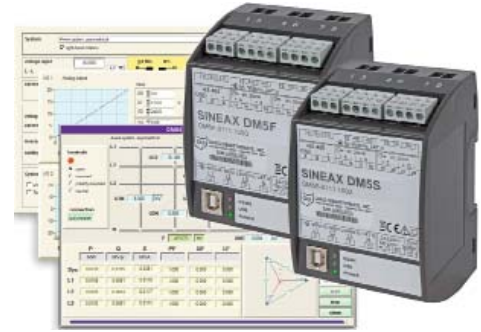


OSI PROGRAMMABLE MULTI-FUNCTION TRANSDUCER MODEL DM5


DESCRIPTION

The DM5 series multifunction transducers measure all parameters of voltage, current and power in 1-, 2- and 3-phase systems with direct connections of up to 5Aac and 693VL-L. The included CB-Manager software allows the user to quickly and easily configure each device for specific applications through the convenient USB port or remotely via the RS485 Modbus/RTU interface option. This software allows the user full configuration access as well as data storage and acquisition, device setting and resetting, and security controls. All DM5 models are available with up to 4 bi-directional analog outputs. The DM5S also offers the capability of monitoring up to 32 energy meters with individual tariffs and base measurement quantities.



MODEL SELECTION

DM5 -0 1 1 0

MEASUREMENT TIME		SYSTEM CONFIGURATION		COMMUNICATION INTERFACE		ANALOG OUTPUTS		TEST CERTIFICATE	
F	Programmable, 1/2-, 1/2 (1)-, 1-, 2-, 4- or 8-cycle measurement	1	Universal for all applications (3 voltage inputs, 3 current inputs)	0	(none)	0	(none)	0	(none)
		2	1Φ, 3Φ3W or 3Φ4W balanced load (3 voltage inputs, 1 current input)	1	RS-485 (Modbus/RTU protocol)	1	1 analog output, bidirectional ±20mA	E	Includes certificate in English
S	Programmable, 4- to 1024-cycle measurement plus energy metering	3	1Φ, 3Φ4W balanced load (1 voltage input, 1 current input)			2	2 analog outputs, bidirectional ±20mA		
		3	3 analog outputs, bidirectional ±20mA						
		4	4 analog outputs, bidirectional ±20mA						



SPECIFICATIONS

INPUT

Current, Nominal..... 1 to 5Aac, adjustable
 Maximum..... 7.5A (sinusoidal)
 Overload without damage 10A, continuous
 100A, 10 x 1s, at 100s intervals
 Burden..... ≤ I² / 3MΩ per phase
 Voltage, Nominal..... 57.7 to 400VL-N, 100 to 693VL-L
 Maximum..... 480VL-N, 832VL-L (sinusoidal)
 Overload without damage
 480VL-N, 832VL-L continuous
 600VL-N, 1040VL-L, 10 x 10s, at 10s intervals
 800VL-N, 1386VL-L, 10 x 1s, at 10s intervals
 Burden..... ≤ V² / 3MΩ per phase
 Impedance..... 1.54 MΩ per phase
 Frequency Range 45...50/60...65Hz
 True RMS measurement up to 63rd harmonic

INSTRUMENT POWER

Nominal ... 100-230Vac ±15%, 50-400Hz or 24-230Vdc ±15%
 Burden..... ≤ 10VA

SYSTEM CONFIGURATIONS ACCOMMODATED

Single-phase
 Split-phase (2 phase system)
 Three-phase...3-wire, balanced load (1 1/2 element)
 3-wire, bal. load, phase shift (DM5S only)
 3-wire, unbalanced load (2 ele., 3 ele.)
 3-wire, unbalanced load, Aron connection
 4-wire, balanced load (1 ele.)
 4-wire, unbalanced load (2 1/2 ele., 3 ele.)
 4-wire, unbalanced load, Open-Y

CONFIGURATION INTERFACE

Type USB, max. 10ft. (3m)
 Physical..... Socket USB-B
 Device Class Human interface device (HID)

COMMUNICATION INTERFACE

Modbus/RTU RS-485 (max. 32 devices)
 Physical..... max. 4000ft. (1200m), via plug-in terminals
 Baud Rate 2.4k to 115.2kBaud

OHIO SEMITRONICS, INC.

4242 REYNOLDS DRIVE * HILLIARD, OHIO * 43026-1264
 PHONE: (614) 777-1005 * FAX: (614) 777-4511
 WWW.OHIOSEMITRONICS.COM * 1-800-537-6732

SPECIFICATIONS

ANALOG OUTPUTS

Connections plug-in terminals, galvanically isolated
 Linearization linear or kinked
 Range ±20mA (24mA max.), bipolar
 Uncertainty ±0.1% (included in basic accuracy)
 Response Time (50Hz)
 DM5S 85...165ms (for 4 cycles measurement)
 DM5F 15...25ms (for ½ cycle measurement)
 Burden ≤ 500Ω (max. 10 V / 20 mA)
 Burden Influence ≤ 0.1%
 Residual Ripple ≤ 0.2%

MEASUREMENT UNCERTAINTY

Ref. Cond. Ambient 23°C ±1°C, sinusoidal, PF=1,
 (acc. IEC/EN 60688), 50-60 Hz, Burden 250 Ω,
 DM5S Measurement over 8 cycles
 DM5F Measurement over 1 cycle
 Voltage, Current ± 0.15% F.S. Volts / F.S. Amps ^{1) 2)}
 Power ± 0.2% (FSU x FSI) ²⁾
 Power Factor ± 0.1° ²⁾
 Frequency ± 0.01 Hz
 Active Energy (DM5S only) Class 0.5S, EN 62 053-22
 Reactive Energy (DM5S only) Class 2, EN 62 053-23

- 1) F.S. Volts / F.S. Amps represents the configured maximum value of voltage and current inputs.
 2) Additional uncertainty if neutral wire is not connected for 3-wire connections:
 Voltage, Power 0.1% of Rdg.
 Load factor 0.1°
 Energy Voltage influence x 2, Angle uncertainty x 2

SAFETY

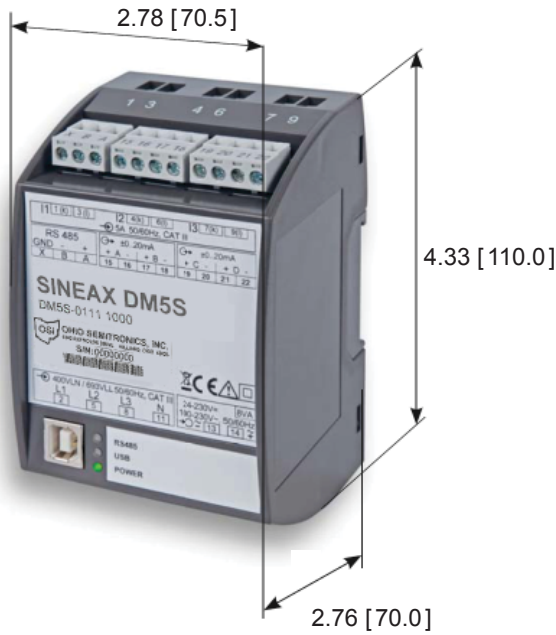
Current Inputs are galvanically isolated from each other.
 Protection Class II (protective insulation, voltage inputs via protective impedance)
 Pollution Degree 2
 Protection Rating IP30 (housing), IP20 (terminals)
 Overvoltage Category CAT III up to 600V

PHYSICAL AND ENVIRONMENTAL

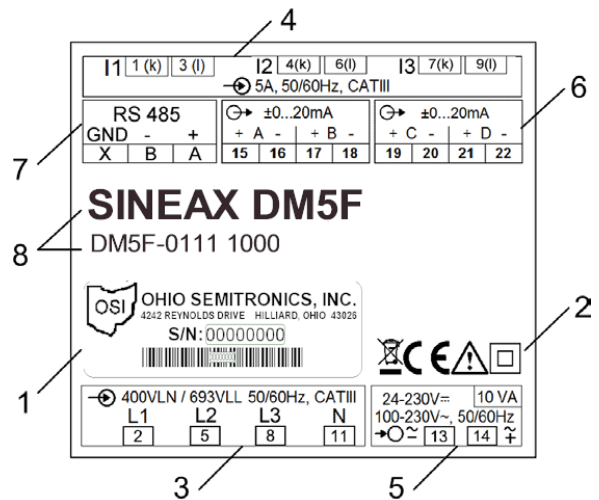
NOTE: Intended for indoor use only!
 Operating Temperature -20 ... 22 ... 24 ... + 55°C
 Storage Temperature -25 to +70 °C
 Temperature Effect 0.5 x basic uncertainty per 10°C
 Long-term Drift 0.5 x basic uncertainty per year
 Others Usage group II (EN 60 688)
 Relative Humidity < 95% non-condensing
 Altitude ≤ 6561ft. (2000m) max.
 Enclosure Material Polycarbonate
 Weight 1.1 lb. (500 g)
 Flammability Class UL94V-0, self-extinguishing, non-dripping, halogen-free

NOTE: Refer to the Device Handbook (Operator's Manual), ModBus Basics, Modbus Interface and Safety Instructions for additional information.

CASE DIMENSIONS AND CONNECTIONS



All dimensions in inches [mm].
 Tolerance - 0.00±0.03in. (unless otherwise specified)



- ➡ Measurement Input
- ➡ Input Voltage
- ➡ Input Current
- ➡ System Frequency
- ➡ Voltage Inputs
- ➡ Current Inputs
- ➡ Power Supply
- ➡ Analog Outputs
- ➡ Modbus
- ➡ Model Number