Datascan Analog
Measurement Processors
7320 & 7321

General Description

The Datascan 7300 series is a series of intelligent distributed input/output modules designed for real time measurement, data collection and communication. Ideal for factory industrial and scientific applications, the Datascan 7300 combines the cost saving benefit of distributed I/O with the flexibility of local channel expansion.

Main Features

- Direct Sensor connection for DC voltages, thermocouples strain gauges RTD's resistance and 4-20mA converters

- 16 inputs on board expandable locally to 256 channels (1000 over network)

- Integral network interface for distribution over 1.2 Km (4Km with extension unit)

- I6 bit measurement performance with 0.625µV sensitivity

- Serial Port isolated to 500 VDC

- Wide range of compatible analog and digital input/ output modules for expansion

- Local measurement speed up to 400 readings/sec 1000/sec over the network

- Individual channel programming of sensor type and speed

- Multi Vendor Software Support

- Compact Rugged DIN rail mounted

- Network Port isolated to 500 VDC

The **7300** series is designed to provide a simple, reliable, accurate and cost effective means of connecting plant sensors to standard computers for real time monitoring and data acquisition. The Datascan can be used universally with any type of computer as the data interface is by means of a standard serial port.

The **7300** series is the most recent addition to the range of measurement processors and is completely compatible with the previous series of products. The 7300 series can be used with any of the 26 Datascan channel expansion modules in the range.

The **7300** series can be used autonomously or alternatively as part of a total distributed network. Each 7300 can support up to 256 channels of local inputs or outputs using the units local expansion bus. Alternatively it can become part of a distributed network of up to 1000 channels spanning a distance of up to 4 Km (15000 ft). Each 7300 incorporates a programmable 16 bit ADC, an isolated serial interface, an isolated token passing network interface, on board non volatile memory for storing unit configurations, 8 or 16 inputs depending on model type, and an expansion port for channel extension. The unit is packaged in a compact DIN rail mounted carrier making it simple to install.

Specification

	Model Type	No of Inputs	Sensor Types	Resolution	Input Impedance
The 7320/21 are analog input measurement processors. The 7320 is a 16 channel unit whereas the 7321 provides a total of 8 channels.	**7320**	**16** (3 pole) expandable to 256 channels	DC Voltage, Thermocouples, 4-20 mA	16 bits @ 40 rdgs/sec 14 bits @ 400 rdgs/sec	30M ohms
Both units provide direct sensor connection for Thermocouples, DC voltages, 4-20 mA inputs and current.	**7321**	**8** (6 pole) with pulsed energisation expandable to 256 channels	DC Voltage, Thermocouples, Resistance Thermometers, Strain Gauges, 4-20 mA, Resistance	16 bits @ 40 rdgs/sec 14 bits @ 400 rdgs/sec	30M ohms

	Sensor	Range	16 bit	14 bit	Accuracy			
The 7321 provides direct sensor energisation for strain gauges and resistance thermometers. Both models have integral CJC for direct Thermocouple measurement.	DC voltage (7320/21)	10 V 1.3V 150mV 20mV Auto	320 µV 40 µV 5 µV 0.625µV	1.28 mV 160 µV 20 µV 2.5 µV	+/-0.02%rdg+0.01%range+1bit +/-0.02%rdg+0.01%range+1bit +/-0.02%rdg+0.01%range+1bit 16bit(+/-0.02%rdg+0.01%range+5µV) 14bit(+/-0.02%rdg+0.01%range+10µV)			

Calibration period 12 months. Calibration termperature 20°C. All quoted errors are worst case.

Temperature coeff <30 ppm / °C (CJC Error 0.6 °C)

	Sensor Type Thermocouple 7320/21	Ranges		Sensitivity 16 bit resolution	Sensitivity 14 bit resolution	Limits of Error
Each channel can be individually programmed for specific sensors speed and measurement range.						
The high performance 16 bit ADC (Analog to digital converters) offers sensitivities as high as 0.625 µV.	K Type	-100 to 500 to	500 °C 1200 °C	0.02 °C 0.20 °C	0.1 °C 1.0 °C	0.3 °C 0.6 °C
The integrating technique of conversion provides very high immunity to mains borne noise.	J Type	-50 to 360 to	360 °C 800 °C	0.02 °C 0.20 °C	0.1 °C 1.0 °C	0.3 °C 0.5 °C
Software support	N Type	-200 to 100 to 580 to	100 °C 580 °C 1300 °C	0.10 °C 0.05 °C 0.10 °C	0.4 °C 0.2 °C 0.4 °C	0.6 °C 0.4 °C 0.6 °C
Datascan can be used with a wide range of standard software products available from several third party vendors.	T Type	-150 to	400 °C	0.02 °C	0.1 °C	0.3 °C
	R Type	0 to	1600 °C	0.10 °C	0.4 °C	1.4 °C
	S Type	0 to	1700 °C	0.10 °C	0.4 °C	1.4 °C
Other details	E Type	-50 to 290 to	290 °C 1000 °C	0.02 °C 0.10 °C	0.1 °C 0.4 °C	0.3 °C 0.7 °C
Common/series mode rejection	B Type	200 to	1600 °C	0.50 °C	2.0 °C	4.4 °C
DC common mode : 100 dB's AC common mode : 120 dB's AC series mode : 60 dB's	Resistance thermometers PT100 (7321 only)	-50 to -150 to	300 °C 500 °C	0.02 °C 0.20 °C	0.1 °C 1.0 °C	0.25 °C 0.50 °C
Overload Protection	Strain Gauges Full 1/2 1/4 bridge (7321 only)	0-10,000 µe		0.62 µe	3.0 µe	10 µe
+/- 30V continuous +/- 200V transient <0.1s						
RS232 Port	4-20 mA (7320/21)	4-20 mA				+/-0.15%
Baud Rates : 4800, 9600, 19.2K, 38.4K Isolation : 500V DC						

Network Specifications	Power	Dimensions	Weight	Op temp	Humidity
Electrical Specification : RS485 Media : Twisted Pair Maximum Length : 1.2Km Data Rate : 1000 results / sec Isolation : 500V DC Total channels / network : 1000	Supply 24V DC consumption <2 Watts @ 24V	W 230 mm H 123 mm D 80 mm	750 grams	-10 to 60°C storage -20 to 80°C	RH 90% Non-Condensing

Your Local Distributor	
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