

#### SIGMA REMOTE DATA ACQUISITION SYSTEM



- Portable rugged data acquisition modules
- Plug in sensor connections for fast set-up
- Modules support a wide range of sensor inputs
- IP55 rated for harsh conditions
- **Connection for local display**
- High speed RS485 network communications
- **RS232 OR USB PC communications**
- IDAS PC software integrates into client packages

## DESCRIPTION

The Sigma remote data acquisition system features small, portable remote measurement units which can be distributed over a wide area and connected via an RS485 high speed network - reducing the cost of transducer cabling at the same time as ensuring the integrity of the measured results.

The system consist of a number of modules suitable for a range of standard input sensors and a computer interface-network power supply unit. Up to 99 Sigma units can be connected to a single RS485 network over a combined length of 1Km.

# DATA ACQUISITION SYSTEMS

The hub of the system is the 381 interface, which converts the RS485 into RS232 or USB for connection to a PC and provides DC power for all the Sigma modules on the network. Only the 312a unit requires local power to supply programmable transmitters.

Modules are networked over two-pair cable and the network connections are made using plugs and sockets for ease of installation. Each module has a connection for a local display to assist in the set up process.

The communications protocol ensures that all channels on the network will be returned to the PC every second. The data is of the highest integrity as it is digitised at source with full series mode noise rejection

The IDAS software, operating under Windows, represents a complete PC based package for logging, storage and presentation of the measured data. IDAS has features such as automatic module detection and real-time charting.

### SPECIFICATION

Power Supply :	90 - 260Vac, 140W (Network interface) 12-28Vdc, 3W (Input modules) 230Vac, 50W (312a input module)
No of channels : DC Voltage : DC Current : Thermocouples : PT100 : Resistance : Transmitters : Noise rejection :	See table $\pm 10V$ ; $\pm 1.5V$ ; $\pm 180$ mV; $\pm 23$ mV $160$ mA max ( $62\Omega$ internal shunt resistor) Types K, J, T, R, S, E, B, N $-150^{\circ}$ C to $400^{\circ}$ C; 2, 3 or 4 wire $32\Omega$ , $256\Omega$ , $2000\Omega$ , 2 or 4 wire 24Vdc supply, 2 or 4 wire AC common mode >140dB (channel group) AC common mode >120dB (single channel)
Communication : Network size : Op temperature : Rel humidity :	DC channel common mode >108dB AC series mode 50 or 60Hz >60dB RS485, 153kB max 99 input modules, 1km max -20°C to +70°C 90% max (0 to 40°C)
Vibration : Protection : Connectors :	3g (0 to 400Hz) in 3 planes IP55 RS232 : 9 pin D type USB : 5 pin circular connector RS485/24vdc supply : 5 pin circular Sensor input : 8 pin circular (312A)
	2 pin flat (310a, 311a, 311b only) Thermocouple input : 2 flat pin plug (310a only) Local display : 5 pin circular Mains power : 3m 3 core cable (311a/312a only)
Dimensions : Weight :	250 x 215 x 68 2.2 Kg (Network interface) 1.8 Kg (Input modules)
IDAS Software :	Windows NT, 2000, XP or Vista

Digital Analogue Analogue PC interface cable gland inputs gland inputs network power supply connector inputs 310a Model No 310 310b 312a 311 312 314 311a 311b 333 381A 381U 8/16 20 20 18 Channels 20 20 10 20 20 10 Analogue inputs  $\overline{}$  $\overline{}$ 016  $\bigcirc$ DC Voltage DC Current Thermocouples 0 PT100 C Resistance Strain (full bridge) 8 Strain 1/4,1/2, full 8 Sensor power (24v)  $\bigcirc$ **Digital inputs** Status Frequency C Period  $\bigcirc$ Count 0 **Events** 0 PC Connection RS232 0 USB 

## **MODULE SELECTION**

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