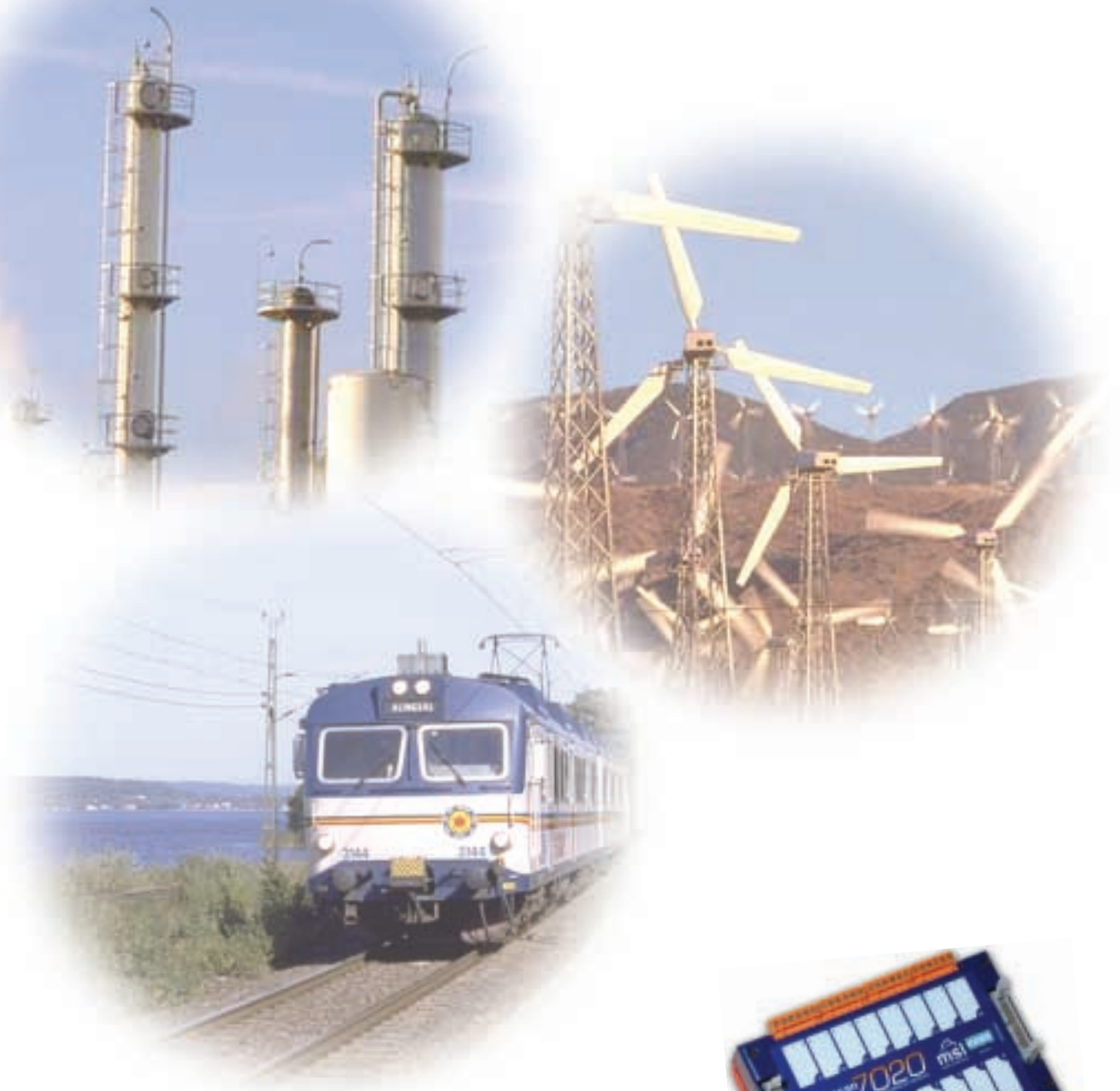




Datascan 7000

Modular data acquisition system



Datascan 7000

the 'no-compromise' solution for data monitoring and control

Among the profusion of data acquisition products available today, the Datascan 7000 family clearly stands out from the crowd. Datascan's unique combination of features makes it the perfect choice for both new and existing installations, offering

- Excellent measurement capability
- Unrivalled system flexibility
- Proven reliability, with over one million channels already installed.

Whether you need a small standalone system to monitor a test rig, a complete acquisition system for a plant stretching over a wide area, or additional capabilities for your existing SCADA system, Datascan 7000 will meet your requirements - without compromise and at an affordable price.

Datascan 7000 is a family of intelligent modules that can be selected and configured to bring measurement data from virtually any type of plant sensor into a host computer for analysis, alarm detection, storage, and onward transmission to other data networks, plant management systems and the Internet.

Measurement processors (and any associated local **expansion modules**) are located close to the point of measurement and can be situated anywhere in the plant. Processors are interconnected using low cost RS485 industry standard communications networks. A unique global data concept ensures that measurement data from anywhere in the network is available at every measurement processor, providing multiple-point data access and simplifying the configuration of fail-safe systems when required.

Connection to the host PC is via standard RS232, with converters available for USB, Ethernet, ZigBee or WiFi. **Network interface modules** can be used to extend the network where the host is remote from the measurement system.

Datascan 7000 systems can easily be accessed and controlled by all major SCADA/DCS packages, including MSL's popular **Orchestrator™**. This easy-to-use Windows-based package enables users to configure a system and display data in less than an hour, while offering powerful facilities for creating complex customised acquisition and analysis applications and an integral OPC server.

New Ways to Connect !

USB
Ethernet + WiFi
Zigbee *Please call us !*



Total flexibility

The unique architecture of Datascan 7000 provides unlimited possibilities for creating acquisition systems tailored exactly to your needs today - and totally adaptable for all your future requirements.

- wide range of measurement processors and expansion modules
- virtually any sensor can be accommodated, and you can "mix and match" sensors as required, even on the same module
- every channel individually configurable from host computer
- network architecture can be configured for best speed/cost trade-off
- 200 V isolation available for difficult situations
- Standard serial communications link enables any computer or slave data terminal to be connected anywhere on the system

4-20mA
Voltage

Thermocouple

Period
Current
PRT
Frequency
Strain

Resistance
Status

PT100
Count

Existing Datascan users include...

- Alenia-Marconi ● Alstom ● AMEC ● Astrium
- Atomic Weapons Establishment (UK) ● BNFL
- BP Exploration ● Corus ● Daewoo UK Ltd
- DERA/Qinetiq ● GlaxoSmithKline
- Halliburton ● Kodak ● Mobil ● Magnox
- Marine Nationale de France ● Mitsui-Babcock
- TRW Aeronautical Systems
- Unilever Research ● Volvo Aerospace

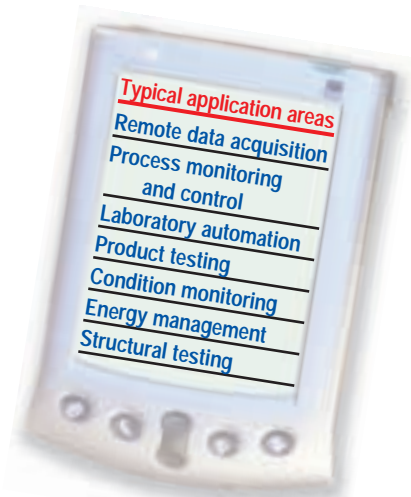
Data integrity

With a choice of 14 or 16-bit conversion, 0.625 μ V sensitivity and integral drift correction and an operating temperature range of -10 to $+60$ °C, Datascan 7000 offers unsurpassed measurement accuracy, guaranteeing the integrity of your vital data. Integral 500 V isolation on all RS485 and RS232 ports provides valuable protection for modules and host PC in the event of a serious plant failure.

Unbeatable value, proven reliability

Datascan 7000's broad range of rugged modules and flexible channel configuration enable you to specify just what you need for your application and maximise the return on your investment. There's no need to buy separate modules for each type of sensor or input. You can even use spare channels on analog modules as digital status inputs: ideal for monitoring widely distributed pumps and other ancillaries requiring a mix of analog and digital signals.

And you need have no worries about the reliability: with over one million channels installed and very few failures, Datascan 7000's track record for continuous, accurate performance under arduous condition is, quite simply, second to none.



Datascan 7000 - surprisingly different.

Total flexibility...

At the heart of the Datascan 7000 system are rugged, DIN-mounted **measurement processors**. These are located close to the sensors, minimising the need for costly instrument cable. Connection to the sensors is via plug and socket, which simplifies installation and maintenance. The processor converts the sensor outputs into engineering units and applies linearisation, drift correction, and cold junction compensation for thermocouples where appropriate.

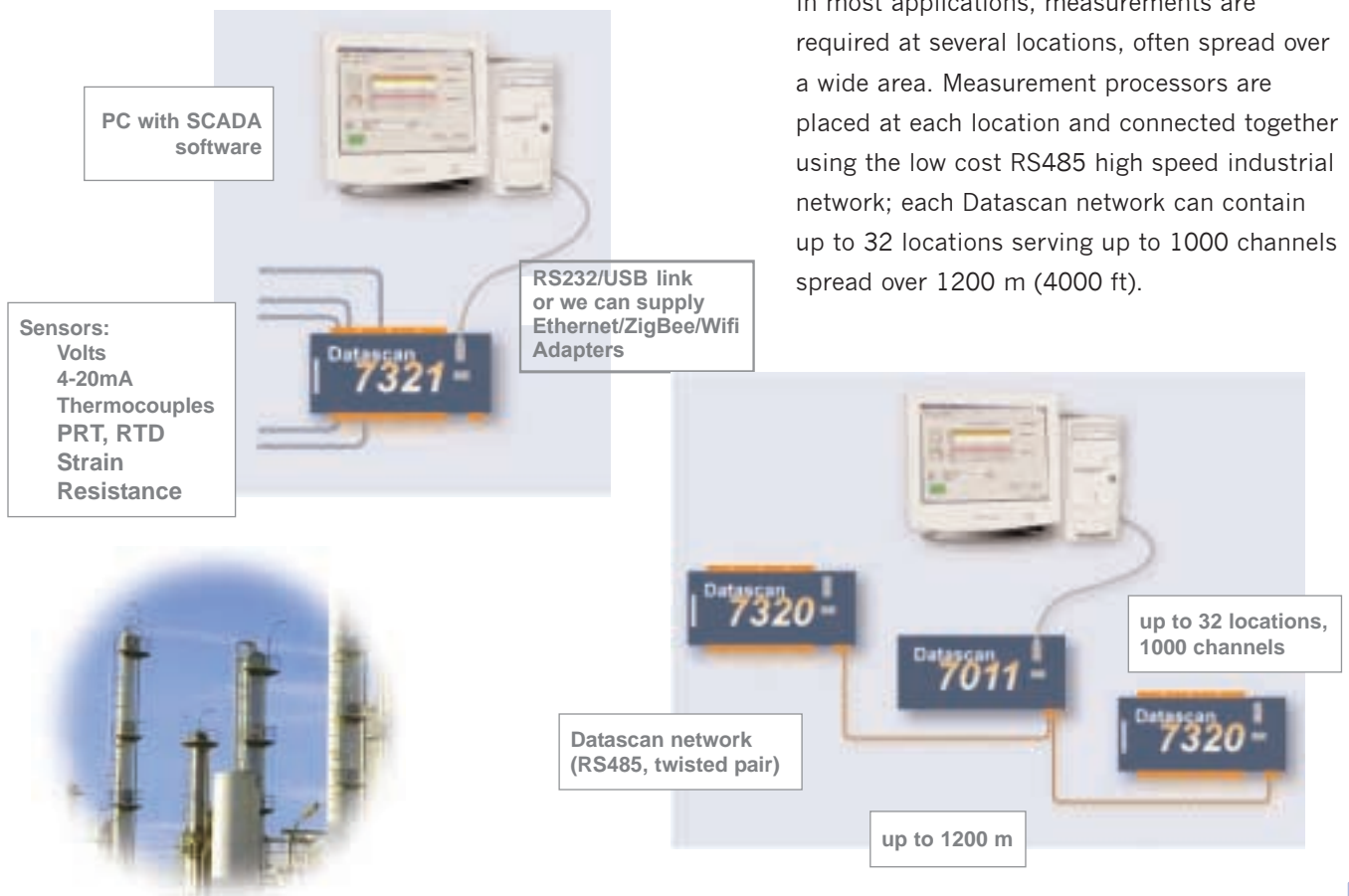
Measurement processors have two communications ports: RS485 for connection between processors and network interface modules and RS232 for connection to the host computer. Any spare serial comms port of the computer can be utilised and no special interface cards or adapters are required. The simplest Datascan system is shown below:

The maximum length for an RS232 link is 10m (33ft.); where the host computer is located remotely - in a control room, for example - a Datascan 7011 interface module is used to extend the distance to the measurement processor using the RS485 network.

Both the RS232 and RS485 ports on the measurement processors have 500V isolation to protect the host computer and other measurement locations from the effects of a malfunction.

Only one measurement processor or interface module needs to be connected to the host computer to act as a gateway for commands and data to the whole network. For host systems using the Modbus protocol, the 7011-M interface is available as a slave gateway to the Datascan network.

In most applications, measurements are required at several locations, often spread over a wide area. Measurement processors are placed at each location and connected together using the low cost RS485 high speed industrial network; each Datascan network can contain up to 32 locations serving up to 1000 channels spread over 1200 m (4000 ft).



...whatever your needs

At some locations there may be more sensors than the measurement processor can handle alone. Here a measurement processor with expansion capabilities is used in conjunction with analog or digital expansion modules, which effectively increase the number of channels available on the processor. Careful choice from the wide variety of input and output expansion modules available will ensure that systems are effective and economic. Each processor can handle up to 256 channels over a total distance of 10 m (33 ft).

Global data

In addition to its own measurement data, each processor maintains a complete real-time record of the data from every other location. (The data transfer process is entirely transparent to the host computer.) This offers significant opportunities for novel system architectures - for example, multiple redundant hosts for fail-safe applications, or data terminals situated at convenient key locations throughout the plant to provide a real-time display of key data.



Simple protocol, self configuring

Configuration and command messages from the host to the measurement processors use simple ASCII strings; measurement data can be returned as ASCII or binary to suit the application. The Datascan network can be controlled by all the popular SCADA or DCS packages, or by custom applications written in visual or other programming languages such as Basic, C, or C++.

The Datascan network is self-configuring, enabling processors and expansion modules to be removed and replaced with minimal disruption.

Datascan network

- Up to 1000 input/output channels per network
- Network up to 1200 m (4000 ft)
- Low cost twisted-pair cabling
- All data available at every location
- Support for multiple hosts

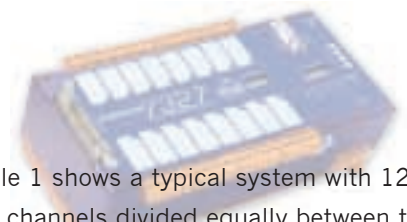
Design for performance

Datascan - tuned for performance and economy...

For many applications, where channel scan rates are not critical, the design of the Datascan network will be defined by the location of the sensors; one measurement processor - with expansion modules if necessary - is allocated to each group of sensors. Where speed (channel update rate) is an issue, Datascan offers several strategies for meeting the requirement economically, including:

- Using 14-bit acquisition to increase update rates by 10x compared to 16-bit
- Adding more processors to reduce the channel count per processor.
- Specifying dual ring operation for the Datascan network.

(A more detailed description of Datascan acquisition speed considerations is available from MSL.)



Example 1 shows a typical system with 128 analog channels divided equally between two measurement processors. Measurement has been set at 16bits, providing approximately 40 measurements per second for each processor. With 64 channels per processor, the Per Channel Scan Rate (PCSR) is around 0.55 Hz (each channel updated every 1.8 s). If half the channels are measured with 14 bit resolution, the PCSR increases to 1.01 Hz (0.99 s).

In example 2, additional processors replace two of the expansion modules so that there are now 32 channels per processor. The PCSR increases to 1.11 Hz (0.9 s) while retaining 16 bit measurement resolution.

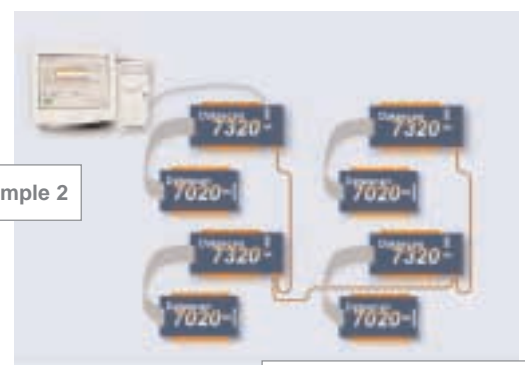
Example 3 shows a system designed for a PCSR of 10 Hz, using 14 bit measurements. (Note that the RS232 link must be 38.4 kB to transfer data at this speed to the host PC.)

Example 1



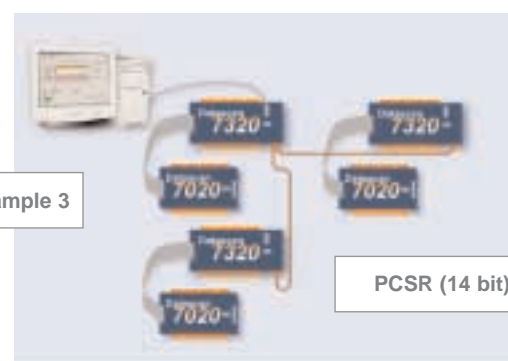
PCSR (16 bit) = 0.55 Hz
PCSR (14/16 bit) = 1.01 Hz

Example 2



PCSR (16 bit) = 1.11 Hz

Example 3



PCSR (14 bit) = 10 Hz

Advanced features

The Datascan 7000 family has advanced features to improve network integrity and measurement accuracy.

Built-in watchdog

A programmable watchdog facility on each measurement module can be set to monitor communications activity and power. If either fails, any digital output channel can be used to indicate the failure or initiate fail-safe or remedial action.

Autonomous alarm outputs

Digital outputs can be configured to respond directly to alarm conditions on one or more channels, without the intervention of the host computer.

Channel shadowing

Analog and digital channels can be set to follow a corresponding input channel, to drive a local indicator, for example.

Pseudo digital channels

Unused analog input and output channels can be configured to respond as digital inputs and outputs. This can help to reduce the number of modules where only a few digital inputs are needed.

Selectable mains rejection

Measurement integration times are selected to match the mains frequency providing good immunity to mains interference in electrically noisy environments.

Built-in drift correction

Datascan 7000 processors continually adjust for changes to zero offset and gain drift to maintain excellent measurement accuracy and repeatability over extended periods of time.

Pulsed sensor energisation

Power to active sensors such as strain gauges and RTDs is applied only when measurements are taken, reducing the power requirement and eliminating self-heating effects.

Status indication

All processors are equipped with LEDs showing power, communications and measurement activity. These are particularly useful during commissioning and fault-finding.

Selectable data formats

Data can be formatted in several ways, enabling you to choose the one best suited to your application.

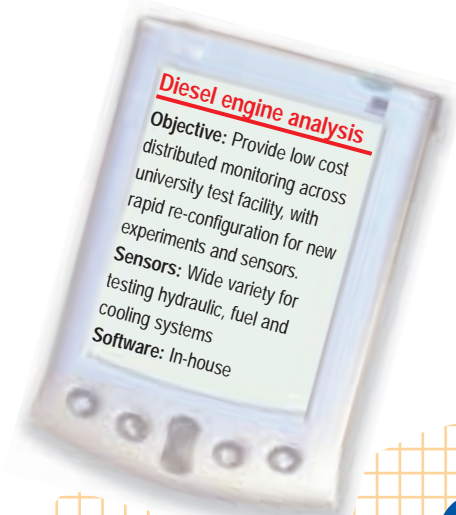
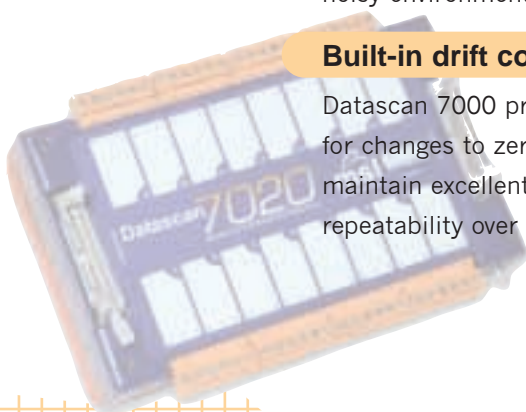
ASCII format returns each value as a 10 byte packet, and minimises data manipulation in the host;

BINARY format transmits the data in 4 bytes, reducing the load on the communications networks, and is normally used for systems with many channels or where rapid data update is required.

SHORT format is restricted to digital status data, and requires only 1 byte for each result.

Dual token ring operation

Where a subset of the channels needs to be updated more frequently than the rest, the channels can be allocated to a second token ring on the Datascan RS485 network.



Complete software support

All popular SCADA and DCS packages provide support for Datascan using a custom driver or Datascan's integral OPC server capability. So whether you want to create a new application using your preferred package, or add to your existing system, it couldn't be easier.

Alternatively, as Datascan systems are configured and controlled using simple ASCII-based commands transmitted via the host's serial link, it is quite straightforward to create a customised application based on a standard programming language such as Visual Basic, C, or C++. You can even connect Datascan into an existing Modbus system using the 7011-M interface module.

Packages which support Datascan include those shown below.

For new systems we strongly recommend **Orchestrator**, a powerful package from MSL optimised for use with Datascan 7000 and ICPCON systems.

Running under Windows, **Orchestrator** provides an integrated set of modules for automatic data acquisition, monitoring, data recording, flexible user interface and mimic generation, report generation and network operability.

Orchestrator is quick to set up and easy to use, making it ideal for systems where flexibility is key.

Complete Datascan 7000 Starter packs, including software, are available now - ask for details!

- Comprehensive real-time calculations for complex cross channel processing or logical sequences
- Multiple live displays, including mimics, multiple trends, text
- Advanced alarm processing
- Powerful object-oriented GUI generation facilities, including data-driven graphics and menus
- Automatic batch creation/completion
- Integral DDE and OPC support for real-time data updates to other Windows applications and suitable third-party applications. Internet server options also available
- Full client/server networking capabilities.



Orchestrator

harnessing the full power of Datascan

Selecting the right Datascan modules

The comprehensive range of modules in the Datascan 7000 family can match the requirements of almost every application, but selecting the modules you need can seem quite daunting at first.

This step-by-step guide will help you choose what you need for your project.

Step 1

Determine the requirements

- a) Identify all the input and output channels you will need for the project. (You may also want to include additional channels for future expansion.)
- b) Cluster the channels into locations so that the physical spread of the sensors is no more than about 10m (33ft). Each location will require at least one measurement processor.

Step 2

Select your measurement processors

Using the table below, select the most appropriate measurement processor for your needs. You can, of course, have more than one processor at each location.

Note: You must select a processor with expansion capability if the number of channels required exceeds the processor's maximum, or if you need a more sophisticated combination of digital inputs and outputs.

Measurement processor channel capabilities									
Processor	7220	7221	7250		7010		7320	7321	7327 ¹
Expansion					Yes		Yes	Yes	Yes
Pseudo digital*	16	8	8				16	8	16 200V isolation
DC voltage 4-20mA current Thermocouples									
Strain Resistance PRT									
DC voltage out DC current out			8						
Specification (See pages x-y)	General & Analog Spec. A				General Spec. only		General & Analog Spec. A		General & Analog Spec. B
Cost ratio	0.8	0.8	0.8		0.6		1.0	1.0	1.2

* Pseudo digital inputs are analog inputs configured as digital status inputs

¹ - 14-bit conversion is not available on 7327.

Selecting the right expansion modules

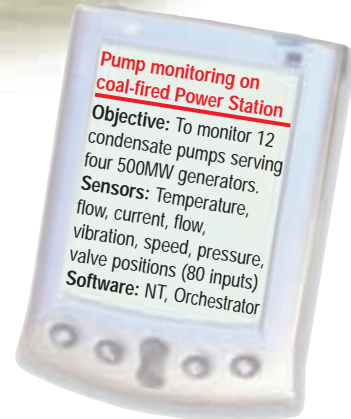
Step 3

Select expansion modules

Use the table below to select the expansion modules you need to meet the measurement requirements at each location. Up to 256 channels can be connected to one processor.

When designing your system, you should also consider reducing the number of channels per processor to increase channel update rates.

For many systems there will be several different ways to achieve your goal. Cost ratio figures are given to help you compare the relative cost of different configurations; the figures are intended as rough guidelines only; current prices should be obtained from MSL or their agents.



Expansion module channel capabilities								
Module	7020	7021	7027 ¹	7050	7031	7035	7036	7041 ²
DC voltage 4-20mA current Thermocouples	16	8	16 200V isolation	8				
Strain Resistance PRT								
DC voltage out DC current out				8				
Digital status Counting <10Hz					16		8	8
Frequency Period Counting <3.5kHz								8
Digital status output						16	8	
Specification	General & Analog Spec. A		General & Analog Spec. B	General & Analog Spec. A	Digital Spec. C			
Cost ratio	0.6	0.6	0.7	0.6	0.3	0.4	0.4	0.7

¹ - 7027 can only be used with the 7010 or 7327 processor (up to eight per processor) and cannot be mixed with 702x modules on the same processor. 14-bit conversion is not available on 7027.

² - 7041 connects directly into the RS485 Datascan bus, not via a processor expansion port.

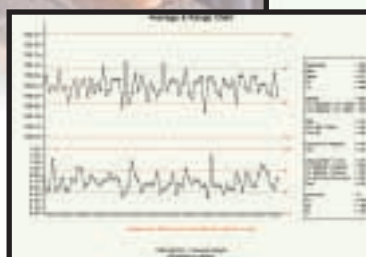
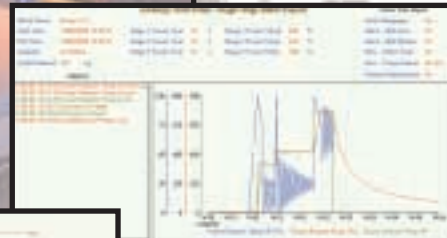
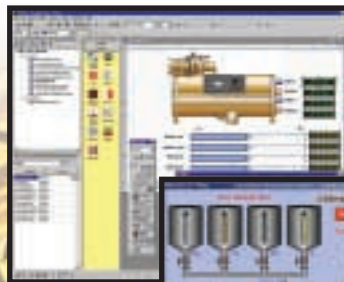
Step 4

Select network interface module

If the host computer is further than 10 m (33 ft) from the nearest measurement processor, you will need a network adapter to bring the RS485 Datascan network to the host.



Network interface capabilities		
Module	7011	7011-M
Isolated RS 485 port Isolated RS 232 port	Yes	Yes
Modbus ASCII protocol converter	No	Yes
Specification	General Spec. only	
Cost ratio	0.4	0.5



General Specification

Applies to all Datascan modules except where stated.

ADC

Bit rate	14/16 bit, programmable
Measurement speed	
14bit (not 7027 or 7327)	400 channels /s
16 bit	40 channels /s
Channel update rate (typical)	1 – 10 Hz

RS232 (Processor to host)

Measurement processors only

Format	8 bit, 1 stop, no parity
Speed (7010/11 only)	300, 1200, 9600, 38400 baud
Speed (except 7010/11)	4800, 9600, 19200, 38400 baud, switch selectable
Max. length	10 m (33 ft) to host
Isolation	500 V

RS485 (Datascan network)

Measurement processors (except 7232), network interfaces and 7041 only

Type	single or dual token passing ring
Max no. channels	1000
Speed	93.75 kbaud
Data rate	1000 channels/s
Locations (nodes)	up to 32
Max. length	1200 m (4000 ft)
Isolation	500 V
Cable type	twisted pair
Rec. cable	
<300 m (1000 ft)	Belden 8761
<1200 m (4000 ft)	Belden 9207



Local expansion bus

Not 7220/21/32/50

Max. no. of non-isolated channels	256
Max no. isolated channels	
7327, 7027, 7010	128
Max cable length	10 m (33 ft)
Cable type	26-way ribbon (supplied)

Power supply

73xx modules	24 V DC, <2W
Other modules	24 V, DC or AC, <2W
Backup battery life (unpowered)	5 years

Mechanical

Package	Rugged, DIN rail mounted
Dimensions:	

Processors, (w h d)	230 x 123 x 80 mm (9.05 x 4.84 x 3.15 in)
Expansion modules	178 x 123 x 80 mm (7 x 4.84 x 3.15 in)

Weight :

Processors	<0.8 kg (1.76 lb)
7232	1.1 kg (2.42 lb)
Expansion modules	<0.75 kg (1.65 lb)
7027	<1.0 kg (2.20 lb)

Signal connections . . . Plug-in with screw terminals

Environmental

Operating temperature	-10 to 60 °C (14 to 140 °F)
Storage temperature	-20 to 80 °C (-4 to 176 °F)
Humidity	0 to 90% RH, non condensing

MTBF

>125,000 hours

Calibration

Calibration temperature	20 °C (68 °F)
Temperature coefficient	<30 ppm / °C (<17 ppm / °F)
Recommended period	every 12 months
	Software available for recalibration

Analog Specification A

Applies to 72xx, 7320/21, 7020/21 and 7050 modules

Inputs

Each input can be individually programmed

Voltage	-10 to +10 V DC
Ranges	10 V, 1.3 V, 150 mV, 20 mV (autoranging)
Current (with suitable shunt)	.4 to 20 mA
Thermocouple	Types B, E, J, K, N, R, S, T with integral CJC
PRT (7x21 only)	PT100
Strain (7x21 only)	.0 to 10,000 µε
Sensor energisation (7x21 only)	pulsed

Input type

7220, 7232, 7320, 7020	solid-state differential, 3-pole
7221, 7321, 7021	solid-state differential, 6-pole
7250, 7050	solid-state differential, 2-pole

Input impedance

30 MΩ, 5 nA

Input protection

Continuous	±30 V
Transient	±200 V, <0.1s

Analog Specification A (continued)

DC Voltage

Range	Resolution		Limits of error
	16bit	14bit	
±10 V	320 µV	1.28 mV	±0.02% rdg+0.01% range+1 bit*
±1.3 V	40 µV	160 µV	±0.02% rdg+0.01% range+1 bit*
±150 mV	5 µV	20 µV	±0.02% rdg+0.01% range+1 bit*
±20 mV	0.625 µV		±0.02% rdg+0.01% range+5 µV
±20 mV	2.5 µV		±0.02% rdg+0.01% range+10 µV
Auto	as selected range		as selected range

* 7250: ±0.02% rdg+0.01% range+2 bits

Current

Requires 62Ω (±0.1%) shunt resistor across input terminals

Range	Resolution		Limits of error
	16bit	14bit	
4-20 mA	0.65 µA	2.6 µA	±0.15%

Thermocouple

CJC error0.6 °C

Type	Range (°C)	Resolution (°C)		Limits of error (°C)
		16bit	14bit	
B	200 to 1600	0.5	2	4.5
E	-50 to 290	0.2	0.1	0.4
	290 to 1000	0.1	0.4	0.9
J	-50 to 360	0.02	0.1	0.4
	360 to 800	0.2	1	0.6
K	-100 to 500	0.02	0.1	0.4
	500 to 1200	0.2	1	0.7
	1200 to 1600	0.2	2	4.5
N	-200 to 100	0.1	0.4	0.8
	100 to 580	0.05	0.2	0.6
	580 to 1300	0.1	0.4	0.8
R	0 to 1600	0.1	0.4	1.8
S	0 to 1700	0.1	0.4	2
T	-150 to 400	0.02	0.1	0.4

PRT

Type	Range (°C)	Resolution (°C)		Limits of error (°C)
		16bit	14bit	
PT100	-50 to 300	0.02	0.1	0.25
	-150 to 500	0.2	1	0.5

Strain

Type	Range (µε)	Resolution (µε)		Accuracy (µε)
		16bit	14bit	
Full, ½ or ¼ bridge	0 to 10,000	0.62	3	10

Pseudo digital

Modevoltage or resistance
 Threshold
 Voltageapprox. 1.5 V
 Currentapprox. 6500 Ω
 Sensepositive or negative (programmable)

Interference rejection

Common mode DC100 dB
 Common mode AC120 dB
 Series mode AC60 dB

Outputs

7250, 7050 only

Each output can be individually programmed

Voltage-10 to +10 VDC, 5mA max.
 Current4 – 20 mA
(external 24V DC supply required)

Output limits - voltage output

Max current (voltage output)5 mA
 Protection, continuous20 V, short circuit

Output limits - current output

Max load800 Ω (with 24 V supply)

Range	Resolution	Limits of error
±10V	5mV	50 mV (0.2% setting + 10 mV)
4 - 20 mA	4 µA	80 µA (0.3% setting + 20 µA)

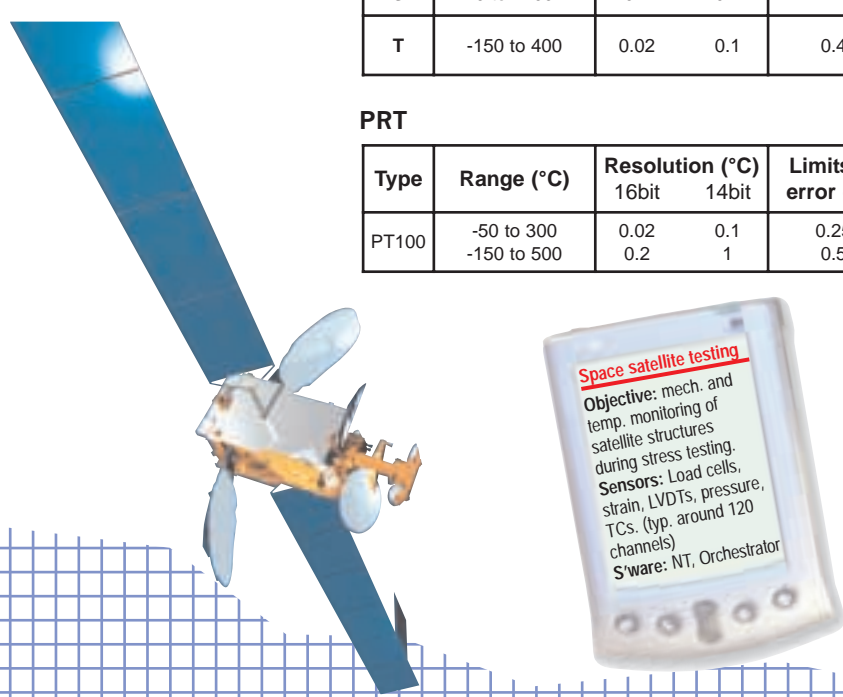
Temperature coefficient

Voltage output100 ppm / °C + 20 mV / °C
(56 ppm / °F + 12 mV / °F)
 Current output150 ppm / °C
(83 ppm / °F)

Pseudo digital

Output states0 and 5 V or -10 and +10 V
 Senseprogrammable

Note: These outputs have no isolation and care should be taken when used in this mode. If possible, use a dedicated digital module.



Analog Specification B

Applies to 7327, 7027 only

Inputs

Each input can be individually programmed

Voltage -10 to +10 VDC
 Ranges 10 V, 1.3 V, 150 mV,
 20 mV (autoranging)
 Current (with suitable shunt) 4 to 20 mA
 Thermocouple Types B, E, J, K, N, R, S, T
 with integral CJC

Input type reed relay differential, 3 pole

Input impedance 1 M Ω

Isolation

Channel to channel ± 200 V
 Channel to ground ± 200 V

Input protection

Continuous ± 100 V

DC Voltage

Range	Resolution	Limits of error
± 10 V	320 μ V	$\pm 0.02\%$ rdg+0.01% range+2 bit
± 1.3 V	40 μ V	$\pm 0.02\%$ rdg+0.01% range+2 bit
± 150 mV	5 μ V	$\pm 0.02\%$ rdg+0.01% range+2 bit
± 20 mV	0.625 μ V	$\pm 0.02\%$ rdg+0.01% range+5 μ V
Auto		as selected range

Current

Requires 62 Ω ($\pm 0.1\%$) shunt resistor across input terminals

Range	Resolution	Limits of error
4-20 mA	0.65 μ A	$\pm 0.15\%$

Thermocouple

CJC error 0.5 $^{\circ}$ C

Type	Range ($^{\circ}$ C)	Resolution ($^{\circ}$ C)	Limits of error ($^{\circ}$ C)
B	200 to 1600	0.5	4.5
E	-50 to 290 290 to 1000	0.02 0.1	0.4 0.9
J	-50 to 360 360 to 800	0.02 0.2	0.4 0.6
K	-100 to 500 500 to 1200 1200 to 1600	0.02 0.2 0.2	0.4 0.7 4.5
N	-200 to -100 -100 to 580 580 to 1300	0.1 0.05 0.1	0.8 0.6 0.8
R	0 to 1600	0.1	1.8
S	0 to 1700	0.1	2
T	-150 to 400	0.02	0.4

Pseudo digital

Mode voltage or resistance

Threshold

Voltage approx. 1.5 V

Current approx. 6 500 Ω

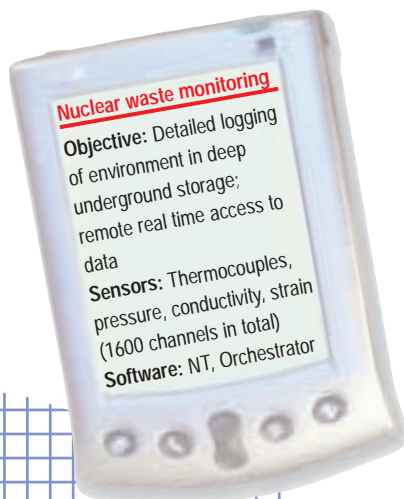
Sense positive or negative (programmable)

Interference rejection

Common mode DC 110 dB

Common mode AC 140 dB

Series mode AC ... 60 dB, @ 50 or 60 Hz $\pm 0.1\%$



Digital Specification C

Applies to 7031/35/36, 7041 only

Inputs

Each input can be individually programmed

7031, 7036, 7041 (ch 9-16)status, count
7041 (ch 1-8)status, count, period,
.frequency, event timing

Type2 pole, opto-isolated
7031DC, AC, volt-free contacts
7036, 7041DC, volt-free contacts
Threshold $1.0 < V_t < 4.0$ V
Max. input current1.2 mA @ 5 V
Maximum voltage24 V DC

Isolation
channel to channel . . .240 V AC RMS, 354 V DC
channel to ground . . .240 V AC RMS, 354 V DC

Overload protection . . .240 V AC RMS, 354 V DC

Volt-free contact energisation
.internal 5 V DC supply

Debounce options (7041 only)0.2, 5, 50 ms

Status
7031, 7036 $V_{in} < V_t = 0, V_{in} > V_t = 1$
7041as above, or inverted
Indication (not 7041)LED per channel

Counting
7041 (ch 1-8) . . .up to 3 500 Hz, 24 bit counter
Othersup to 10 Hz, 16 bit counter

7041 ch 1-8 only

Minimum input hold time128 μ s
Debounce0.2, 5, 50 ms
Timing resolution128 μ s
Period
measurement20 ms to 2000 s
mode . . .high, low, total, 10 period average
Frequency
gate intervals0.1, 1 s,
retriggerautomatic
Event
measurement20 ms to 2000 s
trigger modeson high, on low
capture modeshigh to low, low to high

Outputs

7035, 7036 only

Each input can be individually programmed.

Typeisolated open drain MOSFET
Max on resistance1 Ω

Isolation
channel to channel . . .240 V AC RMS, 354 V DC
channel to ground . . .240 V AC RMS, 354 V DC

Overload protectionOutput clamping

Status indicationLED per channel

Maximum ratings
On current0.5 A
Off voltage32 V
Dissipation in clamping circuit0.5 W





DataWeb 4000 series Ethernet/Internet remote asset monitoring



DataWeb provides real-time direct access to analog and digital measurements from any location in the world via Ethernet TCP/IP (Internet or Intranet) or PSTN/GSM modem. The use of Internet Explorer 5.0+ eliminates the need for specialist software.

Multiple configurable loggers and email on alert and alarm make this the ideal package for flexible, remote monitoring.



ICPCON modules are the ideal complement to the 7000 series for systems where only a few measurement channels are located at each point. Compact and reliable, the ICPCON series includes a variety of modules to meet most needs, including embedded controllers.

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