Intech Instruments Ltd

PLC Integrators

Two 16 channel input Multiplexers to choose from:

1. 2100-A16 intelligent multiplexer

PLC input expansion
16 individually configurable inputs
Thermocouple all types/all spans
Pt100
Pt1000*
mV
V
mA all ranges
Modbus RTU   Modbus TCP

* Pt100 & Pt1000 cannot be mixed on same 2100-A16

www.intech.co.nz/2100-a16
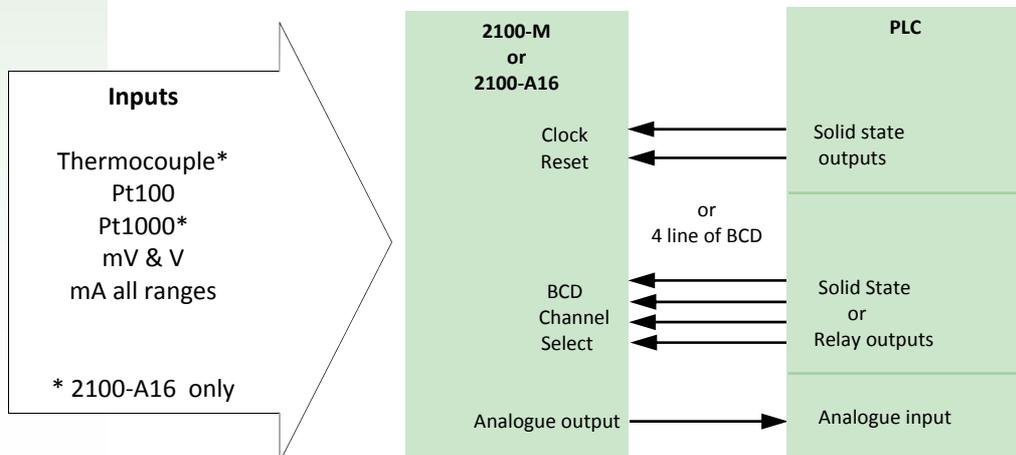
Detailed Specifications on reverse

2. 2100-M analogue input multiplexer

PLC input expansion
16 analogue inputs
High accuracy 0.1%
Field programmable ranges within each model
2100-M-R = RTD any span
2100-M-V = mV & V any span
2100-M-I = mA any span
Modbus protocols **are NOT** available

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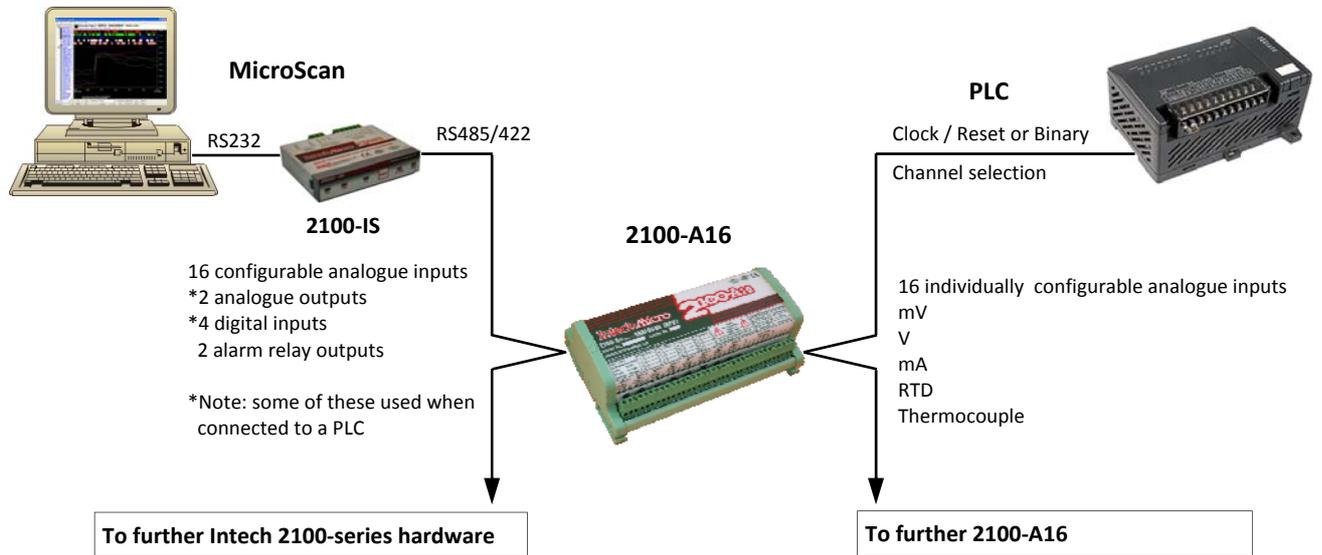
Channel select by PLC is same for both multiplexes:

Inputs

Thermocouple*
Pt100
Pt1000*
mV & V
mA all ranges

* 2100-A16 only

2100-M or 2100-A16		PLC
Clock	←	Solid state outputs
Reset	←	
	or 4 line of BCD	
BCD	←	Solid State
Channel	←	or
Select	←	Relay outputs
Analogue output	→	Analogue input

www.intech.co.nz/2100-m   Download Installation Guide   pages 15.01-13 to 15.01-17 for details on connecting to a PLC

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IN1047

Connects to the MicroScan SCADA & PLC at the same time

MicroScan

RS232   RS485/422

2100-IS

2100-A16

PLC

Clock / Reset or Binary

Channel selection

16 configurable analogue inputs
*2 analogue outputs
*4 digital inputs
 2 alarm relay outputs

*Note: some of these used when
 connected to a PLC

16 individually configurable analogue inputs
mV
V
mA
RTD
Thermocouple

To further Intech 2100-series hardware

To further 2100-A16

The PLC only requires two digital outputs and one analogue input to select and receive data from the 2100-A16 & 2100-M. For each additional multiplexer added to the system, only one more analogue input is required. (The typical fan-out for most PLC's is up to eight multiplexers).

2100-A16   Analogue input Multiplexer

This station has all the friendly features of a monitoring and/or control station. The 16 universal analogue inputs are software programmable using the user friendly configuration software. The 2100-A16 can multiplex up to 16 analogue inputs, into one input of a PLC. It uses solid state switches, making it extremely reliable and durable.

Each input can be configured for any of the following inputs: Thermocouple, RTD Pt100, Pt1000, mA, mV & V. The wide choice of spans ensures high accuracy. The 2 relay contact outputs perform an alarm or control function. Relay output expansion is available using the 2100-R2 16 relay output expansion module. This allows the station to stand alone as a multi channel controller with the relay outputs used for control or alarm or a combination of both. The set point (SV) for each of the controllers, is set using the configuration software & held in permanent memory in the 2100-A16. Other controller parameters include output switching differential, auto/manual and manual settings of output.

Specifications:

Analogue Inputs: 16 Differential, 16 Bit A/D
Each Input can be individually software selected and
scaled within the following span limits.
mV: - 500~500mV
V: -15~15V
mA: -100~100mA (4~20mA default)
RTD (Pt100 or Pt1000):   -200~850°C (-330~1550°F)
Note: On bd selectable. All Pt selections will be either Pt100 or Pt1000
Thermocouple: K & N   -200~1300°C (-330~2400°F)
                  J   -200~1200°C (-330~2200°F)
                  T   -200~ 400°C (-330~750°F)
                  R & S   0~1700°C (0~3000°F)
                  B   250~1800°C (500~3000°F)
                  E   -200~900°C (-330~1650°F)
Differential Inputs: 18V dc peak between any 2
                              channels, mV, V, mA, T/C
ie: 18V dc peak between any 2 points on the input terminals
                              RTD Single Ended
Accuracy   ± 0.1% FSO typical
Relay Outputs: 2 normally open contact outputs, form A.
                              Contact rating = 30V dc. 1 amp
                              LED Indication on each Channel
16 On board Controllers   up to 16 with 2100-R fitted
Dual Analogue inputs: 4~20mA / 0-10V
Communications: Isolated RS422, RS485, RS232
Comms Baud Rate: 9600, 4800, 2400
Power Supply: 85~264V ac/dc
                              23~90V dc selectable
                              10~28V ac/dc optional
                              Power Supply consumption 10VA

www.intech.co.nz/2100-a16

2100-M   Analogue Input Multiplexer

The 2100-M is used extensively in industrial plants, with proven reliability and accuracy. It comes complete and ready to operate in a compact DIN rail mount enclosure.
The 2100-M (previously the EXPO-3) can multiplex up to 16 analogue inputs, into one input of a PLC It uses solid state switches, making it extremely reliable and durable.
The 2100-M-I, the 2100-M-R and the 2100-M-V are on board input span programmable. The output can be configured to a selection of industry standard output signals.

Specifications:

Analogue Input Multiplexer: 16 single ended.
Each Multiplexer is span programmable with in the specified input type as below:
2100-M-R = RTD Pt100 (-200~600ºC) (-330~1100 ºF)
2100-M-I = 4~20 / 0~20mA
2100-M-V = mV & V (0~500mV and 0~10V dc)
Accuracy: < ± 0.1% FSO Typical
Ambient Drift: < 0.01% / ºC FSO Typical
Isolation on clock & reset: 1kV ac/dc for 1 min
Operating Temperature: 0~60ºC
Storage Temperature: -20~80ºC
Operating Humidity: 90% RH. Non condensing
Housing: DIN & EN Rail Mount.
                                L = 195, W = 120, H = 70
Power Supply: 85~264V ac/dc
                                23~90V dc selectable
                                10~28V ac/dc optional

www.intech.co.nz/2100-m

2100-R2
Relay Output Expansion

The 2100-R2 is used in conjunction with the 2100-A16 to expand the outputs using individual and isolated change over contacts. The 2100-R2 is ideal for on/off control or alarms and allows full use of the 16 on Bd controllers in the 2100-A16. Can use 2x 2100-R2 with the 2100-A16 for a total of 32 relay outputs. Note: the 2100-R2 replaces the 2100-R.

Specifications:

Relay Outputs: 16 Isolated contact outputs
                               Change over Form C
                               2 A 250V ac   2 A 30V dc
                               0.3A 110V dc   1/10 H.P. 125V ac
                               1/6 H.P. 250V ac
Relay State: Selectable LED Indication each Channel.
On Bd Controllers: Allows use of 16 on Bd
                               On/Off controllers when fitted to 2100-A$_{16}$
Controller Settable Parameters:
                               Set Point (SV)   Switching differential
                               Auto/Manual   Manual output setting
Isolation voltage: 1000 V Peak ac/dc for 1 min.
Power Supply: 85~264V ac/dc
                               23~90V dc selectable
                               10~28V ac/dc optional
                               Power Supply consumption 10VA

www.intech.co.nz/2100-r2