

- Up to 128-Bits of Digital Input and Output in One Module
- TTL Compatible Digital Inputs
- Choice of TTL or Open-Collector Digital Outputs
- Open-Collector Outputs Suitable For Driving Relay Coils.
- Programmable by Bit Byte or Word
- Front Panel Status Indicators
- Built-in Self Test

The 20-410 Digital Input/Output Modules offer a choice of port configurations up to a maximum of 128-bits. Modules can be specified as all inputs, all outputs or a combination of both.

All inputs are compatible with TTL voltage levels and are suitable for receiving signals from logic circuits or sensors with TTL level outputs. Outputs can be specified as either TTL, suitable for driving standard logic, or Open-Collector, for driving higher current loads such as relay coils. The Open-Collector option can tolerate up to 50V and sink up to 500mA of current.



**Not Recommended
for
New Designs***

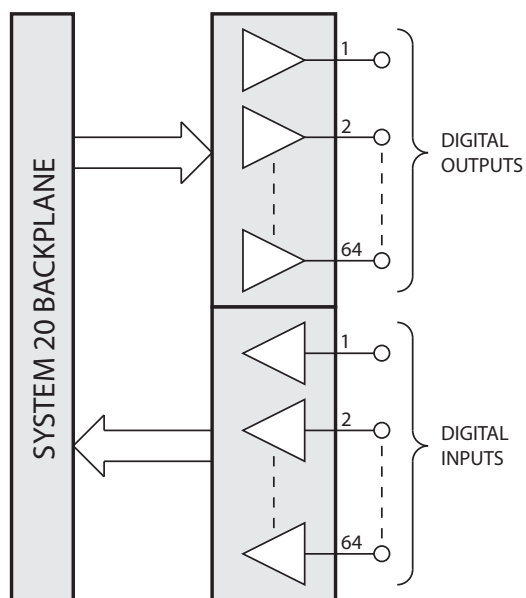
20-410 Digital Input/Output Module

***Please contact Pickering for alternative
PXI/LXI/USB solutions**

The module is programmed by writing and reading data at bit, byte or word level, this simplifies the interfacing operation. Applications include; generating control signals, stimulus and sensing status from digital devices.

Typical Applications

- Construction of special one-off circuits
- Programmable amplifiers
- Programmable attenuators
- Programmable filters
- Special circuits to drive external relays
- Mounting special relay types
- Dummy multiplexer channels for calibration purposes



**Diagram for the 20-410-041 Digital Input/Output
Module With 64-Bits of I/O**

Specification - TTL Output Drivers

Maximum drive capability:	15 TTL inputs.
Current drive Sink:	10mA max
Current Source:	0.4mA max
Max Voltage:	7V
Total Operate/Release Time:	7ms

Specification - Open Collector Transistor Drivers

Maximum Standoff Voltage:	50V
Power per O/P:	1.0W max
Power per byte:	1.6W max
Current Drive:	500mA max.
Total Operate/Release Time:	7ms

Specification - Digital Inputs

Maximum Standoff Voltage:	7V
Input Current:	I _{ih} = 20mA, I _{il} = -0.4mA
Pull up resistor:	10kΩ pulled up to 5V
Nominal True voltage:	>2.0V
Nominal false voltage:	<0.8V

Programming

The module uses a standard IEEE-488.2/RS-232 message based interface and is programmed via the System 20 backplane. The I/O ports are programmable by bit, byte or word.

Self Test

The module has a built in self-test that is executed at power on or invoked by a software command. The test checks internal logic, checks power supply levels and tests the output drivers. The result of the test is indicated on the front panel LEDs.

Mechanical Characteristics

All modules conform to the 6U height (128mm) Eurocard standard and are 160mm deep. Panel width for all versions is 2.4 Inches.

Connectors

- System 20 bus: 64-Pin DIN 41612 plug
- Digital input/output: 2 x 64-Pin DIN 41612 plugs on front panel (20-410)

Note: Alternative connectors are available to order, please contact the sales office for details.

Operating/Storage Conditions

Operating Conditions

Operating Temperature:	0°C to +55°C
Humidity:	Up to 95% non-condensing
Altitude:	5000m

Storage and Transport Conditions

Storage Temperature:	-20°C to +75°C
Humidity:	Up to 95% non-condensing
Altitude:	15000m

Safety & CE Compliance

All modules are fully CE compliant and meet applicable EU directives: Low-voltage safety EN61010-1:2010, EMC Immunity EN61326-1:2013, Emissions EN55011:2009+A1:2010.

Product Order Codes

Digital Input/Output Module (2 x DIN 41612 Front Panel Connectors)	
32-Bit Input/Output	20-410-021
32-Bit Input/Output - Open Collector	20-410-021-0
64-Bit Output	20-410-022
64-Bit Output - Open Collector	20-410-022-0
64-Bit Input	20-410-023
64-Bit Input/Output	20-410-041
64-Bit Input/Output - Open Collector	20-410-041-0
128-Bit Output	20-410-042
128-Bit Output - Open Collector	20-410-042-0
128-Bit Input	20-410-043

Mating Connectors & Cabling

DIN 41612 Connector Crimp Pin	10-967-001
DIN 41612 Connector IDC Socket	10-967-101

Product Customization

Pickering System 20 modules are designed and manufactured on our own flexible manufacturing lines, giving complete product control and enabling simple customization to meet very specific requirements.

Customization can include:

- Different performance specifications

All customized products are given a unique part number, fully documented and may be ordered at any time in the future. Please contact your local sales office to discuss.