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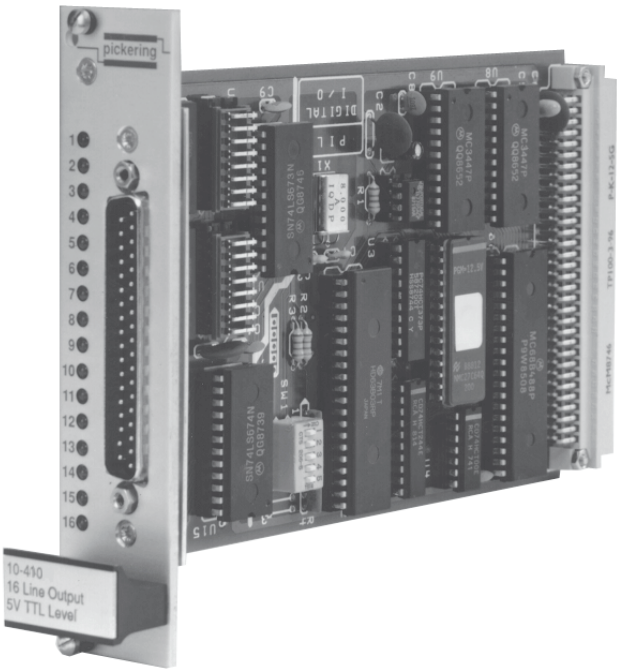
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Find the *Pickering 10-410* at our website: ***Click HERE***

10-410A/411A
Digital Input/Output Module

- Model 10-410A: 16 Output Bits plus 16 Inputs Bits
- Model 10-411A: 32 Inputs Bits
- Programmable By Bit, Byte or Word (16 Bits)
- TTL Output Option Suitable for Driving External Logic
- Open-Collector Outputs Option Suitable for Driving External Relay Coils
- Optically Isolated Version for High Voltage or Noisy Environments
- Front Panel Status LEDs



The 10-410A/411A range of Digital I/O Modules are suitable for operating external devices, such as heavy duty relays (power, RF and high voltage types), solenoids, lamps etc., or for interfacing with external logic, e.g. a programmable instrument with a BCD interface. Writing and reading can be done at bit, byte or word level to simplify programming effort. Applications include generating control signals, stimulus and sensing status from digital devices.

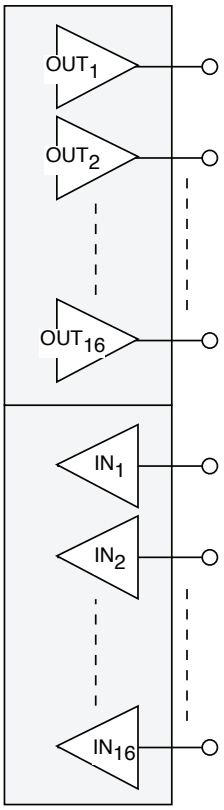
Two choices of output drive are available: TTL for interacting with external logic and Open Collector Transistor for operating external devices with voltages to 50V DC and currents to 500mA. There is also a version with optical Isolation for high voltage or electrically noisy environments.

Model 10-410A-003 is intended for driving the 20-310/320 high voltage modules, these modules are optically isolated when mounted in a separate case.

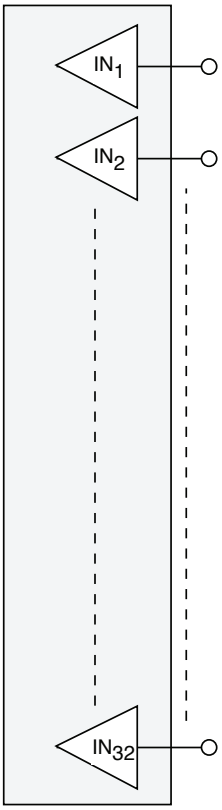
Model 10-411A-001 has 32 bits of digital input only, but is otherwise equivalent to the 10-410-001.

Digital Input/Output Model Types:

10-410A-001	16-Bit TTL. Output with 16 Bit TTL Input.
10-410A-002	16-Bit Open Collector Transistor Output with 16 Bit TTL Input.
10-410A-003	16-Bit High Voltage Driver Module.
10-410A-004	16-Bit Opto-Isolated Driver Module.
10-411A-001	32-Bit TTL Input only Module.



16-Bit Digital I/O
Model 10-410A



32-Bit Digital I/P
Model 10-411A

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Programming

The Digital I/O module is simple to program either by single bit or by word (8 or 16 bits).

ARESET a	Clear all outputs on module **a**
CLOSE a,b	Set bit number **b** on module **a**
DELAY t	Force a minimum delay of **t** milliseconds between two instructions
OPEN a,b	Clear bit number **b** on module **a**
READ? a[,b]	Read word (8 or 16 bits) on module **a.**
	If the bit number **b** is supplied then a 1 or 0 value for that bit only is returned
RESET	Clear all bits/switches on all modules
VIEW? a[,b]	View status of module **a**, can be viewed at any time either as a word or by bit **b** as a logical value (1 or 0)
WRITE a,w	Send word **w** to module **a**

Width and Dimensions

All models conform to the 3U height (128mm) Eurocard standard and are housed in a 160mm deep screened plug-in card . Panel width for all versions is 1.2 Inches.

Connectors

Connections for all modules are made via one front panel mounted 37-way D-type plug.

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

Input and Output Driver Specifications

TTL Compatible Output Driver (Model 10-410A-001)	
Driver I.C.:	74LS673
Maximum drive:	15 TTL inputs
Max Voltage:	7V
Max Current Drive:	Sink: 8mA max
	Source: 0.4mA
Operate/Release Time:	<1ms *(after internal bus DAV)*

Open Collector Transistor Driver (Model 10-410A-002)	
Driver I.C.:	ULS2803A
Maximum Standoff Volts:	50V
Max Power per O/P:	1.0W
Max Power per Byte:	1.6W
Max Current Drive	500mA
Operate/Release Time:	<1ms *(after internal bus DAV)*

Digital TTL Compatible Input	
Driver I.C.:	74LS674
Maximum Standoff Voltage:	7V
Nominal True voltage:	>2.0V
Nominal False voltage:	<0.8V
Data is strobed when the READ? operation executes	

Note: Care must be taken when interfacing the 10-410A/411A module with external circuits which may produce high voltage spikes or RF interference. Additional noise protection may be required, please contact Pickering if you wish to discuss your requirement.

Product Order Codes

Digital Input/Output Module	
TTL 16-Bit i/p + TTL 16-Bit o/p	**10-410A-001**
TTL 16-Bit i/p + Open collector 16-Bit o/p	**10-410A-002**
16-Bit High voltage remote driver	**10-410A-003**
16-Bit Opto-Isolated Input/Output Module	**10-410A-004**
TTL 32-bit Digital Input Module	**10-411A-001**

Mating Connectors & Cabling

Please refer to the Pickering Interfaces "**Interconnection Solutions**" catalog for a full list of connector/cabling options, including drawings, photos and specifications. This is available in either print or as a download.

Alternatively our web site has dynamically linked connector/cabling options, including pricing, for all Pickering modules.

Latest Details

Please refer to our Web Site for Latest Product Details.
www.pickeringtest.com

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Pickering Interfaces maintains a commitment to continuous product development, consequently we reserve the right to vary from the description given in this data sheet.

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