

## Technical Features

|                     |                                                                                |
|---------------------|--------------------------------------------------------------------------------|
| MODEL TYPE          | Module X - MX-8DI Module                                                       |
| Input Voltage       | 24Vdc (Polarity protection, galvanic isolation)                                |
| Input rated voltage | 24Vdc                                                                          |
| I max.              | 2A                                                                             |
| Input current       | 3 mA                                                                           |
| Size                | 45x72x40 mm                                                                    |
| IP protection grade | IP20                                                                           |
| Internal protocol   | Xbus, up to 16 devices. 10 ms refresh rate                                     |
| Connection          | Pluggable push-in terminal block with screw lock<br>AWG (mm2): 24-16 (0.2-1.5) |
| "0" signal voltage  | 0 - 5 V                                                                        |
| "1" signal voltage  | 11 - 30 V                                                                      |

## Register map

| Digital Inputs - Input registers |                       |              |                 |
|----------------------------------|-----------------------|--------------|-----------------|
| Register                         | Input                 | Module Index | Range (decimal) |
| 0                                | 1 (LSB) - 16 (MSB)    | 1 - 2        | 0 - 65535       |
| 1                                | 17 (LSB) - 32 (MSB)   | 3 - 4        | 0 - 65535       |
| 2                                | 33 (LSB) - 48 (MSB)   | 5 - 6        | 0 - 65535       |
| 3                                | 49 (LSB) - 64 (MSB)   | 7 - 8        | 0 - 65535       |
| 4                                | 65 (LSB) - 80 (MSB)   | 9 - 10       | 0 - 65535       |
| 5                                | 81 (LSB) - 96 (MSB)   | 11 - 12      | 0 - 65535       |
| 6                                | 97 (LSB) - 112 (MSB)  | 13 - 14      | 0 - 65535       |
| 7                                | 113 (LSB) - 128 (MSB) | 15 - 16      | 0 - 65535       |

| Digital Inputs - Discrete coils |       |              |                 |
|---------------------------------|-------|--------------|-----------------|
| Register                        | Input | Module Index | Range (decimal) |
| 0                               | 1     | 1            | 0 - 1           |
| 1                               | 2     | 1            | 0 - 1           |
| -                               | -     | -            | -               |
| 8                               | 1     | 2            | 0 - 1           |
| 9                               | 2     | 2            | 0 - 1           |
| -                               | -     | -            | -               |
| 126                             | 7     | 16           | 0 - 1           |
| 127                             | 8     | 16           | 0 - 1           |

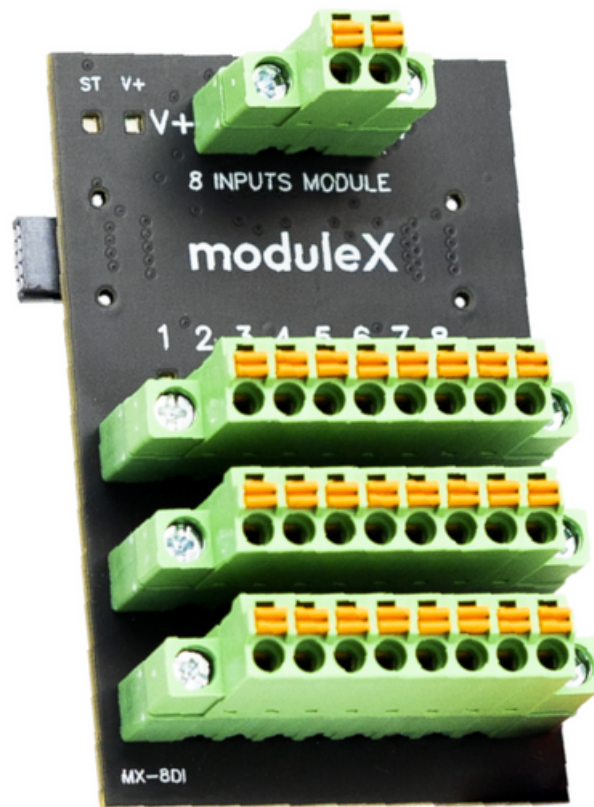
## Additional Information

The **digital inputs** are associated to both **input registers** **discrete coils**. Like digital outputs, each register corresponds to a pair of modules (16 bit registers) and single inputs correspond to single coils. Starting from register 0, the LSB corresponds to output 1 from module 1, while the MSB corresponds to output 8 from module 2.

With a maximum of 16 MX-8DI, up to 8 16-bit registers / 128 coils can be used within a board.

## Symbology

|                                                                                     |                                                                                                                |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
|   | Indicates that the equipment is suitable for direct current only; to identify relevant terminals               |
|   | Indicates that the equipment is suitable for alternating current only; to identify relevant terminals          |
|   | To identify the control by which a pulse is started.                                                           |
|  | To identify an earth (ground) terminal in cases where neither the symbol 5018 nor 5019 is explicitly required. |
|   | To identify the switch by means of which the signal lamp(s) is (are) switched on or off.                       |
|   | CE marking indicates that a product complies with applicable European Union regulations                        |
|   | Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury     |
|  | To indicate hazards arising from dangerous voltages                                                            |



## LED codes

The "ST" status LED serves to indicate the board's status, with the capability to illuminate in three distinct colors

| LED color | Current mode                                                        |
|-----------|---------------------------------------------------------------------|
| Green     | The module is in operating mode, 3Hz blink indicates Xbus data      |
| Yellow    | The module is in init mode, awaiting initialization from the master |
| Red       | The board has an error, check table below                           |

## Error codes

In case of malfunction, the board reports the error code by flashing the "ST" LED in red. The LED flashes at a frequency of 5 Hz and the number of flashes corresponds to an error. The signalling sequence is repeated twice in order to allow the user for proper detection.

| Error ID | Description                                                 |
|----------|-------------------------------------------------------------|
| 1        | Device scan bad CRC                                         |
| 2        | No space in I/O cluster. More than 16 modules are connected |
| 3        | Bad setup frame. Invalid setup frame data                   |
| 4        | Run data bad CRC. Operating frame has invalid CRC           |

## Technical Support

You can contact with us using the best channel for you:

 [support@industrialshields.com](mailto:support@industrialshields.com)

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