

BN IO-LINK INTERFACE DESCRIPTION

Version 1.1 03/01/2024



1 COMMUNICATION

| Parameter | Value |
|---------------------------------|--|
| Vendor ID | 1476 (dec.), 0x05C4 (hex.) |
| Vendor Name | Pizzato Elettrica SRL |
| Vendor URL | www.pizzato.com |
| Product Name | BN IO-Link |
| Device ID | 1 (dec.), 0x000001 (hex.) |
| IO-Link Revision | v1.1.3 |
| Process Data In Length (bytes) | 5 |
| Process Data Out Length (bytes) | 3 |
| Bit Rate (bps) | 38400 (COM2) |
| Minimum cycle time (ms) | 4 |
| Port Class | A |
| SIO mode | No |
| Block Parametrization | Yes |
| Data Storage | Yes |
| Fw Update | No |

2 PROCESS DATA IN

The cyclical parameters that the IO-Link master exchanges with the device are listed in the following table. The button indexes start from the top of the product. The second contact is optional, so its state is visible only in device configurations that support it.

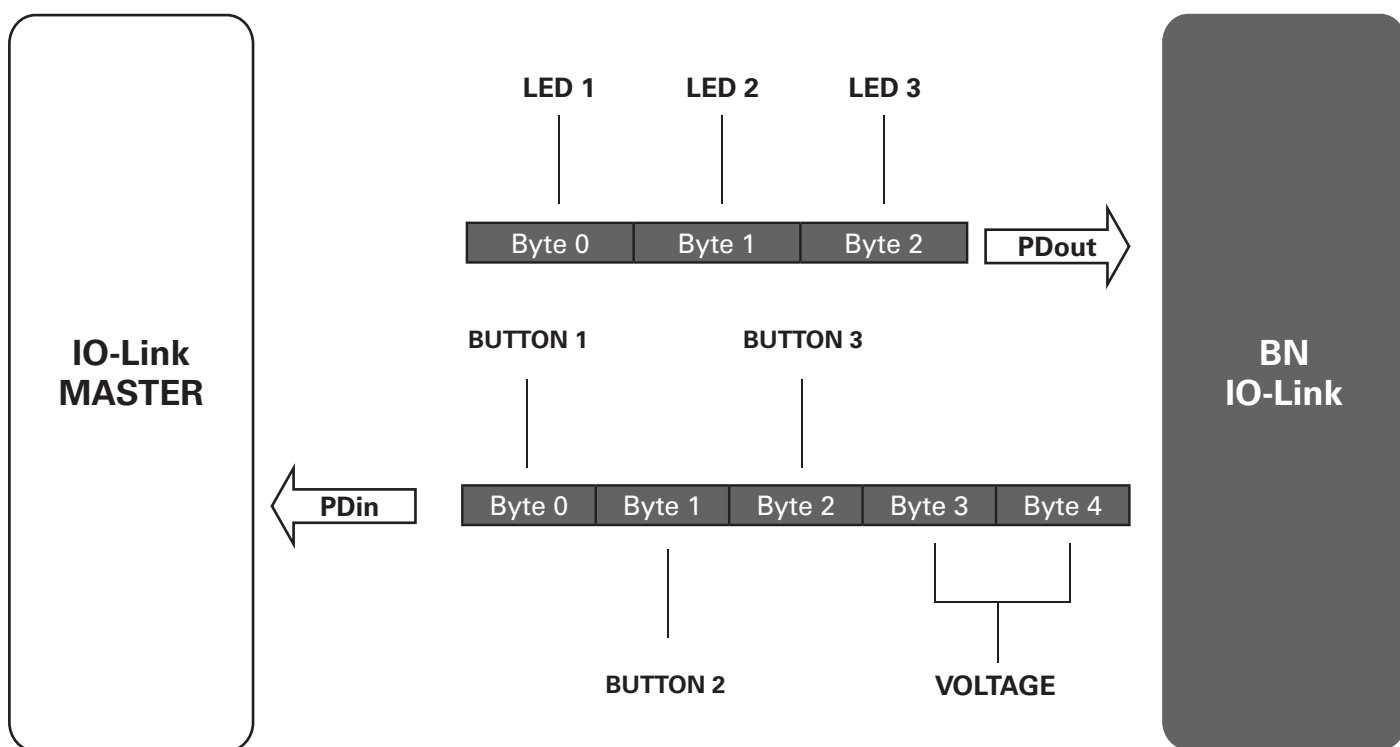
| Name | Byte Position | Length | Value |
|----------|---------------|---------|--|
| BUTTON 1 | 0 | 1 byte | 0 = Open contacts; 1 = First contact closed; 2 = Second contact closed; 3 = First and second contacts closed |
| BUTTON 2 | 1 | 1 byte | 0 = Open contacts; 1 = First contact closed; 2 = Second contact closed; 3 = First and second contacts closed |
| BUTTON 3 | 2 | 1 byte | 0 = Open contacts; 1 = First contact closed; 2 = Second contact closed; 3 = First and second contacts closed |
| VOLTAGE | 3 | 2 bytes | Voltage value (mV) |

3 PROCESS DATA OUT

The cyclical parameters that the IO-Link master exchanges with the device are listed in the following table. The LED indexes start from the top of the product.

| Name | Byte position | Length | Fields | Field Name | Value |
|-------|---------------|--------|---------|------------|---|
| LED 1 | 0 | 1 byte | Bit 0-3 | Colour | 0 = Red; 1 = Green; 2 = Blu; 3 = Yellow; 4 = Cyan; 5 = Magenta; 6 = White; 7 = Custom 1; 8 = Custom 2; 9 = Custom 3; 10 = Custom 4 |
| | | | Bit 4-6 | Mode | 0 = Off; 1 = On; 2 = Flash 0,5 Hz; 3 = Flash 1 Hz; 4 = Flash 2 Hz; 5 = Fade |
| | | | Bit 7 | Brightness | 0 = Low; 1 = High |
| LED 2 | 1 | 1 byte | Bit 0-3 | Colour | 0 = Red; 1 = Green; 2 = Blu; 3 = Yellow; 4 = Cyan; 5 = Magenta; 6 = White; 7 = Custom 1; 8 = Custom 2; 9 = Custom 3; 10 = Custom 4 |
| | | | Bit 4-6 | Mode | 0 = Off; 1 = On; 2 = Flash 0,5 Hz; 3 = Flash 1 Hz; 4 = Flash 2 Hz; 5 = Fade |
| | | | Bit 7 | Brightness | 0 = Low; 1 = High |
| LED 3 | 2 | 1 byte | Bit 0-3 | Colour | 0 = Red; 1 = Green; 2 = Blu; 3 = Yellow; 4 = Cyan; 5 = Magenta; 6 = White; 7 = Custom 1; 8 = Custom 2; 9 = Custom 3; 10 = Custom 4 |
| | | | Bit 4-6 | Mode | 0 = Off; 1 = On; 2 = Flash 0,5 Hz; 3 = Flash 1 Hz; 4 = Flash 2 Hz; 5 = Fade |
| | | | Bit 7 | Brightness | 0 = Low; 1 = High |

4 PROCESS DATA OVERVIEW



5 PARAMETERS OVERVIEW

The following parameters can be read from and/or written to a Device with a IO-Link master.

| Name | Index | Sub-index | Data type | Read/Write | Data Storage | Default Value |
|--------------------------|-------|-----------|----------------------|------------|--------------|-------------------------|
| SystemCommand | 2 | 0 | UIntegerT (8 bit) | WO | | |
| VendorName | 16 | 0 | StringT (64 bytes) | RO | | "Pizzato Elettrica SRL" |
| VendorText | 17 | 0 | StringT (64 bytes) | RO | | "PASSION FOR QUALITY" |
| ProductName | 18 | 0 | StringT (64 bytes) | RO | | "BN" |
| ProductID | 19 | 0 | StringT (64 bytes) | RO | | "BN ACxEAx" |
| ProductText | 20 | 0 | StringT (64 bytes) | RO | | "BN IO-Link" |
| SerialNumber | 21 | 0 | StringT (16 bytes) | RO | | "****" |
| HardwareRevision | 22 | 0 | StringT (10 bytes) | RO | | |
| FirmwareRevision | 23 | 0 | StringT (64 bytes) | RO | | |
| Application-specific Tag | 24 | 0 | StringT (32 bytes) | RW | ✓ | "****" |
| Function Tag | 25 | 0 | StringT (32 bytes) | RW | ✓ | "****" |
| Location Tag | 26 | 0 | StringT (32 bytes) | RW | ✓ | "****" |
| Error Count | 32 | 0 | UIntegerT (16 bit) | RO | | |
| Device Status | 36 | 0 | UIntegerT (8 bit) | RO | | |
| Detailed Device Status | 37 | 0 | ArrayT (3 bytes) [4] | RO | | |
| Process Data IN | 40 | 0 | RecordT (5 bytes) | RO | | |
| Process Data OUT | 41 | 0 | RecordT (3 bytes) | RO | | |

| | | | | | | |
|----------------|----|-----------|--------------------|----|---|-----|
| Custom Colour1 | 64 | 1 - Red | UIntegerT (8 bit) | RW | ✓ | 128 |
| | | 2 - Green | UIntegerT (8 bit) | RW | ✓ | 128 |
| | | 3 - Blue | UIntegerT (8 bit) | RW | ✓ | 128 |
| Custom Colour2 | 65 | 1 - Red | UIntegerT (8 bit) | RW | ✓ | 128 |
| | | 2 - Green | UIntegerT (8 bit) | RW | ✓ | 128 |
| | | 3 - Blue | UIntegerT (8 bit) | RW | ✓ | 128 |
| Custom Colour3 | 66 | 1 - Red | UIntegerT (8 bit) | RW | ✓ | 128 |
| | | 2 - Green | UIntegerT (8 bit) | RW | ✓ | 128 |
| | | 3 - Blue | UIntegerT (8 bit) | RW | ✓ | 128 |
| Custom Colour4 | 67 | 1 - Red | UIntegerT (8 bit) | RW | ✓ | 128 |
| | | 2 - Green | UIntegerT (8 bit) | RW | ✓ | 128 |
| | | 3 - Blue | UIntegerT (8 bit) | RW | ✓ | 128 |
| OperatingHours | 80 | 0 | UIntegerT (32 bit) | RO | | |
| Temperature | 81 | 0 | IntegerT (16 bit) | RO | | |

6 PARAMETERS

The following parameters can be chosen by the customer and they are included inside the Data Storage. For custom colours, FADE mode is not available.

| Name | Length | Fields | Field Name | Value |
|-----------------|---------|--------|------------|-------------------------------|
| CUSTOM COLOUR 1 | 3 bytes | Byte 0 | Red | 0-255 (dec.) PWM value |
| | | Byte 1 | Green | 0-255 (dec.) PWM value |
| | | Byte 2 | Blue | 0-255 (dec.) PWM value |
| CUSTOM COLOUR 2 | 3 bytes | Byte 0 | Red | 0-255 (dec.) PWM value |
| | | Byte 1 | Green | 0-255 (dec.) PWM value |
| | | Byte 2 | Blue | 0-255 (dec.) PWM value |
| CUSTOM COLOUR 3 | 3 bytes | Byte 0 | Red | 0-255 (dec.) PWM value |
| | | Byte 1 | Green | 0-255 (dec.) PWM value |
| | | Byte 2 | Blue | 0-255 (dec.) PWM value |
| CUSTOM COLOUR 4 | 3 bytes | Byte 0 | Red | 0-255 (dec.) PWM value |
| | | Byte 1 | Green | 0-255 (dec.) PWM value |
| | | Byte 2 | Blue | 0-255 (dec.) PWM value |

7 DIAGNOSIS PARAMETERS

The following parameters can only be read from Device.

| Name | Length | Fields | Field Name | Value |
|-----------------|---------|----------|-------------|---------------------------|
| OPERATING HOURS | 4 bytes | Byte 0-3 | Hours | Number of operating hours |
| TEMPERATURE | 2 bytes | Byte 0-1 | Temperature | Current temperature value |

8 COMMANDS

The following functions are related to the System Command at Index 2 (described in the Parameter overview table).

| Command Code | Name | Section | Description |
|--------------|-------------------|------------------|---|
| 129 (dec.) | Application Reset | General Settings | Reset variables inside the Data Storage to the default value |
| 131 (dec.) | BackToBox | Service Function | Reset variables inside the Data Storage to the default value. The device will lose communication with the IO-Link master. The device must be restarted. |

9 EVENTS

Events are acyclic transmissions from the IO-Link device to report a problem to the IO-Link master.

| Event Code | Name | Description |
|--------------|---------------------------------------|---|
| 6202 (dec.) | Internal Fault 1 | Contact Pizzato Elettrica assistance |
| 6203 (dec.) | Internal communication error | Reset Device |
| 6204 (dec.) | Internal IO-Link transceiver error | Reset Device |
| 6205 (dec.) | Process Data error | Written Process Data Out value out of range. Check datasheet and values |
| 16912 (dec.) | Device temperature overrun | Clear source of heat |
| 16928 (dec.) | Device temperature underrun | Insulate Device |
| 20752 (dec.) | Primary supply voltage overrun | Check tolerance |
| 20753 (dec.) | Primary supply voltage underrun | Check tolerance |
| 35840 (dec.) | Technology specific application fault | Reset Device |

10 SUPPORT

The device may be used for safety applications, therefore in case of any doubt concerning installation or operation methods, always contact our technical support service:

Pizzato Elettrica Srl
Via Torino, 1 - 36063 Marostica (VI) - ITALY
Telephone +39.0424.470.930
E-mail tech@pizzato.com
www.pizzato.com

Our support service provides assistance in Italian and English.

DISCLAIMER:

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