











BALLUFF

Roadmap MASTER IO-Link 2022-2023

Internal use only

LEGENDA VARIANTI HARDWARE

	HW07	Standard 7/8"	
	HW08	M12 L-coded	
	HW09	Redesign	 
	HW01	BASIC	 

**HW07****Standard 7/8"**

Attuali BNI005H, BNI00FW, BNI006A, BNI008C, BNI00E7...ecc

Caratteristiche :

Microcontrollore:	HILSCHER NetX
Alimentazione:	connettore 7/8
Corrente massima:	9 A
WebServer:	Standard
Protocollo IT :	solo UDP



**HW08****M12 L-coded**

Attuali BNI00EK (SAMS), BNI00EP, BNI00EM, BNI00H7

Caratteristiche :

Microcontrollore:	HILSCHER NetX
Alimentazione:	M12 chiave L
Corrente massima:	16 A
WebServer:	Angular
Protocollo IT :	REST API- UDP





BNI00HL (ProfiNet) , BNI00HM (Ethernet IP)



Caratteristiche :

- | | |
|-------------------|-----------------------------------|
| Microcontrollore: | SITARA (Texas Instruments) |
| Alimentazione: | connettore 7/8 |
| Corrente massima: | 9 A |
| WebServer: | Angular |
| Protocollo IT : | REST API |

Riprogettate su base **SITARA** come alternativa alle BNI Standard 7/8 con controller Hilscher




HW09

Redesign



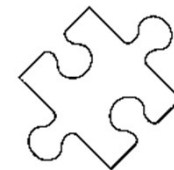
Available in
Q4. 2022

Order code	BNI00HL	BNI00HM
		
Type code	BNI PG3-508-0C5-Z015	BNI EIP-508-005-Z015-013
Alternative to:	BNI005H / BNI00FW	BNI006A / BNI00H2

IMPORTANTE:

- **NON gestiscono BNI0098 (Safety)**
- **NON intercambiabile per ricambi (nuovo file GSD)**

THREE CLASSES



BASIC

Offering Standard-functionality for collecting of IO-Link Devices (or DI/DO) at low power consumption



ADVANCED

Implementing our current Portfolio into new Platform with full IT- & IO-Link Functionality at highest electrical capability



PREMIUM

Adding Edge-functionality to our existing Portfolio while implementing computing capability (Linux-based)



VERSIONE DEFINITIVA

Available in
Q2.2023



New Platform

Doubled performance and higher capability thanks to new controller-Platform



Power Concept

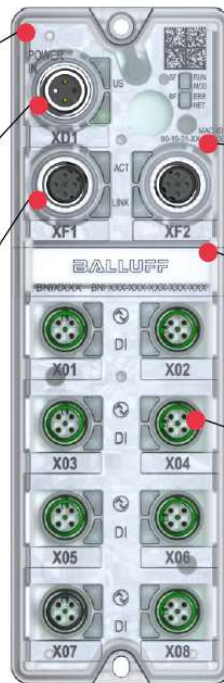
Modules with M12 A or M12 L-coding and max. 4A (w/o daisy-chain)



Multiprotocol

Auto-Detect while start-up of Protocol with PNT, EIP, ECT*, Modbus TCP*

*in a later release



IIOT Inside

REST API & MQTT onboard



Housing

New housing concept (IP67) without potting material



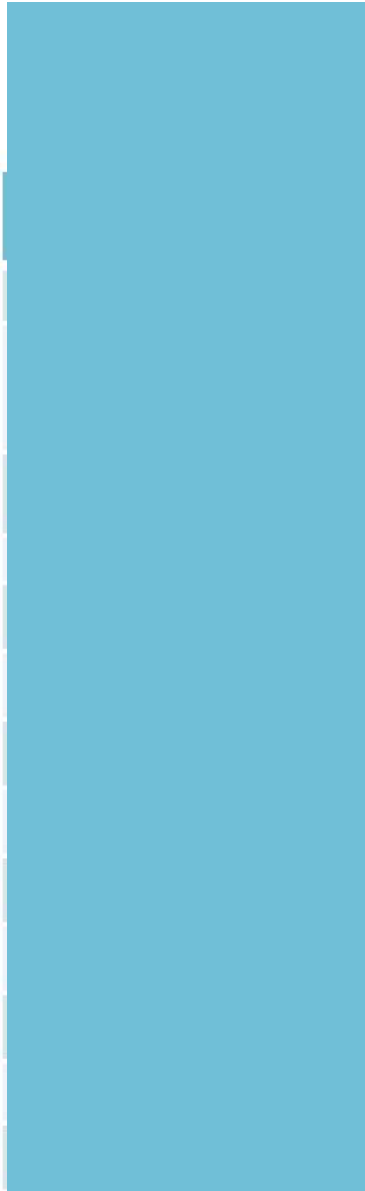
Port Config.

Max. available current per Port with 0.5A / output 0.25 A (on Pin 4)





Features	Standard product HW07	Standard product HW08	Standard product Redesign HW09	Next Gen „BASIC“
Main controller	NetX	NetX	Sitara	Sitara
Industrial Protocols	Single protocol Profinet Ethernet/IP EtherCAT, CC-Link IE Field (BASIC)	Single protocol Profinet Ethernet/IP EtherCAT*	Single protocol Profinet Ethernet/IP	Multiprotocol Profinet, Ethernet/IP, EtherCAT, Modbus TCP
IT Protocols	UDP	Rest API UDP	Rest API	Rest API MQTT
IIoT Port	-	-	-	-
Web User Interface	Standard	Angular Framework	Angular Framework	Angular Framework
Power connector	7/8" M12 T-coded	M12 L-coded	7/8"	M12 A-coded M12 L-coded
Power Daisy Chain	✓	✓	✓	-
Total current	9 A	16 A	9 A	4 A
Port supply (Pin 1)	1.6 A	2 A	2 A	0.5 A
Max. power output supply	2 A (pin 2/4)	4 A on pin 2 2 A on pin 4	2 A (pin 2/4)	0.25 A (pin 4)
HMI	Display	Display	-	-
IO-Link Port	Class A (-508) Class A/B (-538)	Class A (-508)	Class A (-508) -	Class A -
Total cycle time	approx. 10 ms	approx. 10 ms	approx. < 4 - 5 ms	approx. < 4 - 5 ms



BALLUFF

OUTLOOK: BNI NEXT GENERATION HUB BASIC



IO-Link HUB BASIC - Preview

Available in
Q1. 2023



New Platform

Brand new controller with upgraded functionalities



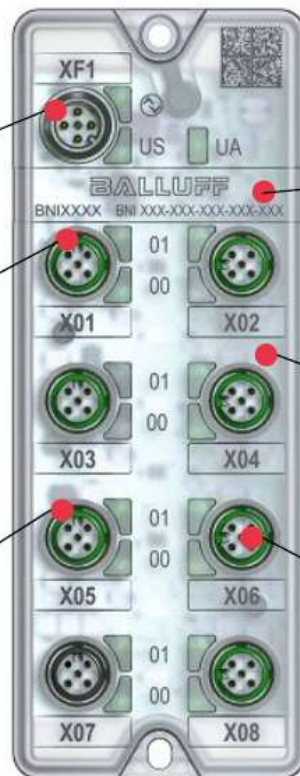
Power Concept

- M12 A-coded
- Current sum max.4A (US/UA)
- PIN1 (US): 200 mA
- PIN 2 / PIN 4 (UA): max. 500 mA



Variety

Available in PNP or NPN variant



Performance



- IO-Link 1.1.3
- COM3 (230.4 kBaud)
- PD cycle min.: 2 ms
- PD IN: 6 bytes
- PD OUT: 2 bytes

Housing



- New concept (IP67)
- without potting material
- Upper and lower shell
- Light-weight for robot application

I/O Channels



- 16x Digital Inputs or up to 8x DI + 8x DO

Codifica descrittivo BNI – Next Generation

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
B	N	I		P	B	S	-	1	0	4	-	0	0	0	-	Z	0	0	1				
B	N	I		P	N	T	-	5	0	1	-	0	0	0	-	Z	0	0	1				
B	N	I		I	O	L	-	1	0	2	-	0	0	0	-	K	0	0	1				
B	N	I		X	G	3	-	5	0	8	-	1	A	5	-	Z	0	1	5				
B	N	I		P	B	S	-	5	0	2	-	0	0	0	-	Z	0	0	1	-	T	0	1
B	N	I		A	C	C	-	L	0	1	-	0	0	0									

Position	Definition
5	X = Multi Protocol L = IO-Link P = Profinet E = Ethernet/IP ...
6	G = Gateway /IOL-Master H = Hub D = Device (e.g. valve terminal conector, converter)
7	1 = Next Gen Basic 3 = Next Gen Advanced 5 = Next Gen Premium