Brad® HarshIO 600 ePN with Fast Start-Up

molex®

HarshIO IP67 Ethernet Modules for PROFINET* featuring Fast Start-Up technology deliver significant operational advantages of speed and versatility for industrial robotic tool-change applications

PROFINET

PI CERTIFIED PROFIBUS • PROFINET

Features

IP67-rated, shock and vibration tested for direct on-machine mounting and harsh environments

4- or 5-pole 7/8" connectors

Accepts standard M12 threaded or Brad® Ultra-Lock® connectors

Standard hole housing pattern allows for interchangeability with popular I/O modules

Choice of fixed I/O module versions

Visible diagnostic LEDs provide maintenance personnel with the ability to easily determine I/O, module and network status

Short-circuit diagnostics per I/O channel

PROFINET* IO according spec. v2.3

Complete module and channel diagnostics supported via PROFINET*

Scrolling 4 characters status display for IP addressing and modules status

IP addressing: DCP or static (through web interface)

Built-in 2-port Ethernet switch, 10/100 Mbps auto-sensing and crossover capability

Built-in web server for configuration, diagnostics, and GSD download

Fast Start-Up capability to start and operate the module in less than 500ms

Grounding isolation between input/logic ground and output ground for application using safety relays

PROFINET* HarshIO Module

Applications

Factory Automation

All industries using robots for repetitive tasks with precision
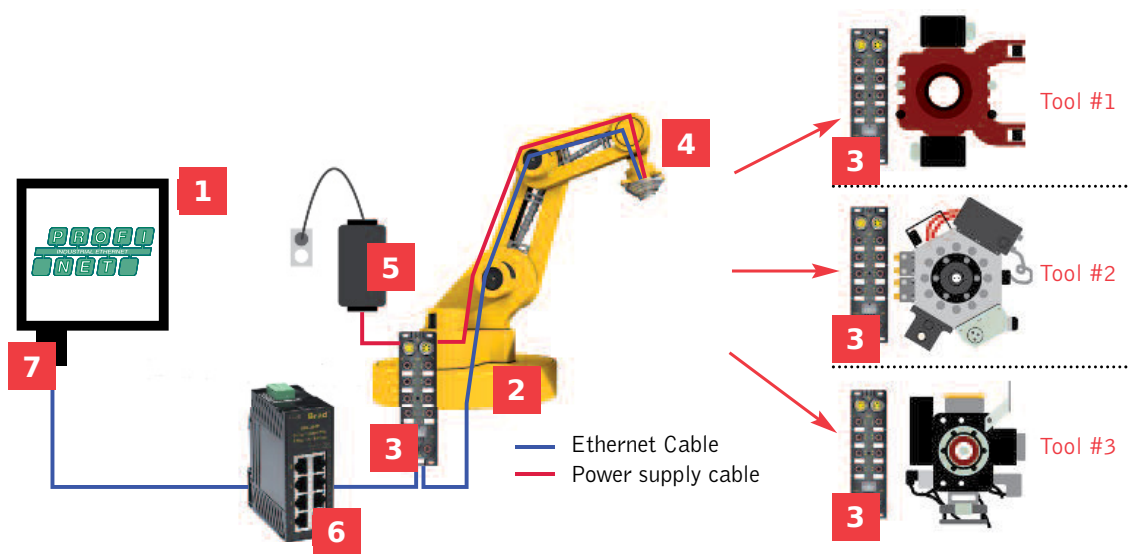
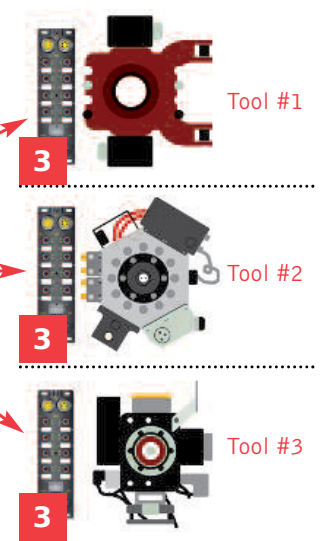Machine tool industry

Automotive

Material handling systems

Filling & packaging machines

Steel industry

1   Cabinet with PROFINET* PLC
2   Robot
3   HarshIO ePN modules
4   Tool Changer
5   24V power supply
6   Ethernet Switch
7   RJ45 to M12 adapter

Tool #1

Tool #2

Tool #3

—— Ethernet Cable
—— Power supply cable

Typical System Architecture

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Specifications

I/O Configurations:
    16x inputs
    12x inputs / 4x outputs
    8x inputs / 8x outputs
    16x outputs
    16x User configurable Inputs/Outputs
I/O Connectors:
    Female, Ultra-Lock™ M12, A-Coded, 5-pole
Bus Connectors:
    Male, Brad Ultra-Lock™ M12, D-Coded, 4-pole
Power Connectors:
    Power In: Male Mini-Change®, 4- or 5-pole
    Power Out: Female, Mini-Change®, 4- or 5-pole
Power Requirements:
    Module input power: 24V DC (-15/ +20%)
    Module output power: 24V DC (-15/ +20%)
    8.0A max per module

Fieldbus Specifications:
    PROFINET* IO-Device (according spec. v2.3)
    Conformance Class B (CC-B)
    I/O update rate up to 1ms
        Data access:
        Cyclic (for I/O data)
        Acyclic (for read/write alarms, module
        configuration and diagnostic)

    PROFIenergy
    SNMP V1/V2/V3

LED INDICATORS
Module and Input Power (UB):
Green – power present
Off – power not connected

Output Power (UL):
Green – power present
Off – power not connected

4-Digit Display:
Provides information about PROFINET*
name, I/O Status, PLC connection, etc.

LLDP: Yes (Sender/Receiver)
MRP: Yes (Client)
Fast Start-Up: Yes
I&M: Yes
Upload GDS file: Yes (via integrated web)
IP Address Capabilities: DCP (default) or Static
Easy Replacement (based on DCP/LLDP)
Ethernet Switch:
    2-port
    10/100 Mbps (auto-negotiation), full duplex
    Storm Protection

Input Type:
    Compatible with dry contact, PNP
    2 or 3-wire sensors
    Electronic short circuit protection
Input Delay:
    2.5ms default or configurable
    through PROFINET*
Input Device Supply:
    140mA per port at 25°C
Output Load Current:
    Maximum 2.0A per channel
    Electronic short circuit protection
    Maximum Switching Frequency: 200Hz
Housing Dimensions: 600 x 220 x 20mm
Mounting Dimensions:
    37.50mm horizontal on centers
    210mm vertical on centers

Input/Output (Ix/Ox):
Green – input/output on
Red – input/output fault
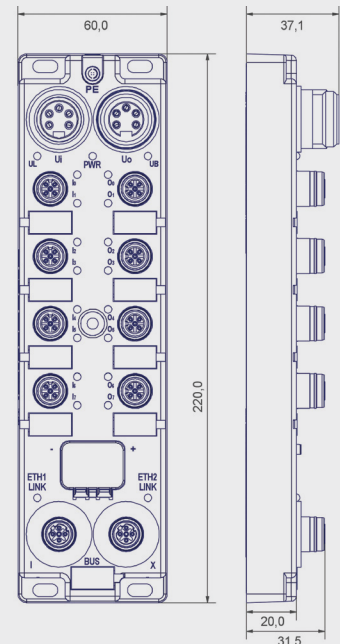Off – input/output off

Ethernet Link (Port 1 and 2)
Solid Green – Ethernet link, 100 Mbit/s, no activity
Flashing Green – Ethernet link, 100 Mbit/s, activity
Solid Yellow – Ethernet link, 10 Mbit/s, no activity
Flashing Yellow – Ethernet link, 10 Mbit/s, activity

    Center hole

Operating Temperature: -25 to +70°C
Storage Temperature: -40 to +90°C
RH Operating: 5 to 95% non-condensing
EMC: IEC 61000-6-2
Protection:
    IP67 according to IEC 60529, NEMA 6P
Vibration:
    7g (15.7Hz to 500Hz), 3 axis
Mechanical Shock:
    10g, 11ms, 3 axis
Thermal Shock: MIL-STD-1344A

Approvals:
    CE, UL, cUL, RoHS, REACH
    PROFINET* conformance tested

Ordering Information

Order No.	Engineering No.	Module Size	Power Connector	Ports	I/O Connectors	I/O Configurations		I/O Channels
						Input	Output	
112095-5052	TCDEP-8D0P-DYU-G	Classic 60mm	7/8" 4-pole	8	M12 Ultra-Lock®	16	0	PNP
112095-5053	TCDEP-888P-DYU-G					8	8	
112095-5054	TCDEP-8B4P-DYU-G					12	4	
112095-5055	TCDEP-80DP-DYU-G					0	16	
112095-5114	TCDEP-8YYX-DYU-01					16x I/O User Configurable		PNP or NPN
112095-5048	TCDEP-8D0P-D1U-G		7/8" 5-pole			16	0	PNP
112095-5050	TCDEP-888P-D1U-G					8	8	
112095-5051	TCDEP-8B4P-D1U-G					12	4	
112095-5049	TCDEP-80DP-D1U-G					0	16	
112095-5115	TCDEP-8YYX-D1U-01					16x I/O User Configurable		PNP or NPN

www.molex.com/link/harshio.html

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