

SmartComm™ Ethernet/IP Module for Sigma 3.1, 5.1 & 8.1 Tool Changers

The SmartComm™ Ethernet/IP Module for Sigma 3.1, Sigma 5.1 and Sigma 8.1 tool change systems features the fastest connection time on the market.

This is the first Ethernet/IP Module to offer diagnostics, taking Ethernet/IP information and indicators to a higher level.



Features and Benefits

- Ethernet Diagnostics and webpage are incorporated on the Robot Side Module (Please see Engineering Data on reverse side of this sheet for more details on it features.)
- An isolated subnetwork drastically reduces connection times.
- To even faster and better serve customers who change tools often, our Tool Side module automatically switches to low power sleep mode for a limited time using SmartCharge™ Technology.
- The patented SmartCharge™, feature reduces connection times by eliminating power-up delay on the Tool Side. With SmartCharge™ enabled, connection times drop to 60ms or less.
- Tool Present and Ready-to-Couple Signal input reduces cycle time and communicates tool changer status.
- An on-board Accelerometer provides real-time robot end-of-arm acceleration and orientation data.
- A Tool Stand Monitoring Safety Circuit is incorporated into the Module design. The actuation valve will not operate unless a tool adaptor is not present or the tool is resting in its support stand (Please Note: A Portion of the Safety Circuit is not included with the Module but is available for purchase).
- Modbus TCP capability included.
- Supports EIP class 1 connections and UCMM.

SPECIFICATIONS

Robot Module weight	0.70kg (1.55lb)
Tool Module weight	0.72kg (1.60lb)
Current/Electrical Contact	5 amps
Resistance/Electrical Contact	50 (mOhm)
Wire Gauge for Contact Receptacles	22 - 26 AWG
Module Dimensions	(LWH)112mm x 110mm x 60.75mm
Connector Sizes	DeviceNet: Minifast
	Auxiliary Power: Minifast
	Ethernet: M12 D Coded
	Tool Stand: M12
	Valve: M12
Mounting to Tool Changer	Four M5 x 60mm length screws
IP Rating	IP65

Advanced Technology & Design

- Fastest available connection times
- Diagnostics available for the first time via a webpage
- Ability to schedule maintenance and run various reports
- Specific diagnostics available for the tool changer itself

Not exactly what your application requires? Applied Robotics can design a solution that meets your particular application needs.

Home Page Example Shown

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SOLUTIONS IN REACH

SmartChange Module
DNET1 Home Page

Current I/O Status					
Aux. Power:	YES	Tool Present:	YES	Tool Stand (Base Uncouple):	No
Rdy-to-Couple#1:	No	Rdy-to-Couple#2:	No	Rdy-to-Couple#3:	No
In#1 Coupled:	YES	In#2 Uncoupled:	No	In#3:	No
Out#1 Couple:	No	Out#2 Uncouple:	No	Out#3:	No
In#4:	No	Out#4:	No		

Connected Device Status					
Current Tool ID:	1-2-003	RTA 50529030	Connected Tools:	1	
Expected Tools:	1	Missing Tools:	0	Unexpected Tools:	0

Maintenance Status			
Coupled Counter (lifetime):	5889	Factory Maintenance:	Not Required
Maintenance Counter:	189	Maintenance Interval:	1500 Cycles
		User Maintenance:	Not Required

Timing	
DeviceNet Connect:	249mS
Coupled to Uncoupled:	175mS
Uncoupled to Coupled:	170mS
Couple to Coupled:	---
Uncouple to Uncoupled:	
Max: Uncouple to Uncoupled:	

Buttons:

TALK TO US
Define the problem. Our solutions in reach.

Applied Robotics is a leading global provider of specialized end-of-arm tooling and connectivity solutions designed to meet unique application and market needs – bringing new levels of flexibility and efficiency to bear on the industrial material handling process.

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Ethernet Diagnostics

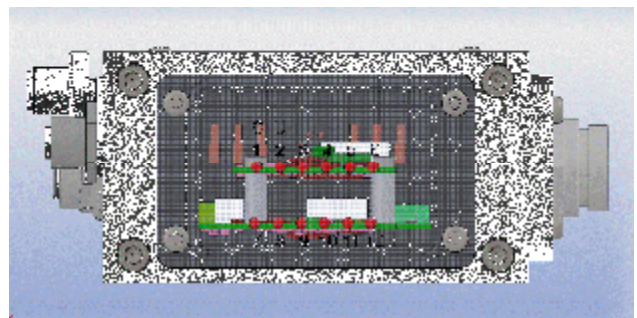
Connect the SmartComm™ module to your network to view Diagnostic Information on a webpage, using ODVA standard M-12 D-coded 4 wire connector.

- View IO Status.
- View lifetime Cycle counts.
- Set and read Maintenance counter which is also visible on the module's on-board LED array.
- View timing of functions to verify proper operation.
- View Histogram of timing trend to verify maintenance needs.
- View Max Cycle Time statistics to pinpoint problems.
- Generate XML format log history reports including such data as Time, Date, Module ID, Name, Cycle Counts, and Max Acceleration Values.
- View 3-Axis Accelerometer values, max values and calibrate.
- Set IP Address, Name, Description.
- View Connected Device Status (the Connected Tool and its downstream blocks/slaves)

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Robot Side Ethernet/IP Module LED Indicators:

- 1=Coupled
- 2=Uncoupled
- 3=N/A
- 4=Factory Maintenance
- 5=User Maintenance
- 6=I/O Active
- 7=Ethernet Link
- 8=Ethernet Activity
- 9=Diagnostic
- 10=Slave Network Status
- 11=Master Network Status
- 12=Module Status



For Tool Side Information please see Users' Guide