H-ROS connector A

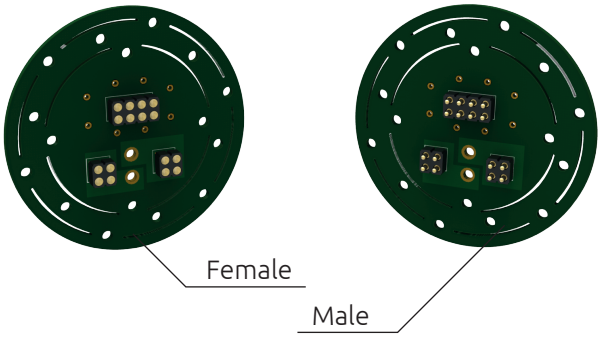
Product specification

This connector simplifies the assembly of modules by supplying power and communication. Spring-based, it offers the required tolerance and flexibility for an easy mechanical coupling, avoiding cables. The H-ROS connector A delivers both Gigabit Ethernet communications and power to daisy chained modules with an industrial-grade mechanical profile. Its upper group, with 8 pins distributed in two rows, is dedicated to communications. The lower group, sub-divided in two sub-groups (one connected to positive +48 volts (V) and the other one to ground) is dedicated to power.

The nominal current rating of each one of the power pins is of 2 amperes (A) and they can stand peaks of 3 A. 48 V is used as the default voltage level in the positive line. The pitch of the connector is of 2.54 mm/0.1" and is built using copper alloy plated with a gold cover and nickel.

Electrical characteristics

Voltage Rating	100 Vrms/150 Vdc
Nominal Current	8 A
Peak Current	12 A
Contact Resistance	20 mOhm/ per contact max.
Capacitance	1 pF/ per contact max.



Mechanical characteristics

Durability	Up to 1.000.000 cycles
Weight	Neglectable
Dimensions	See mechanical drawing
PCB thickness	1.55 mm

Operating characteristics

Surface Mount Compatible (SMC)	No
Working temperature	0-50°C
Working humidity	10-80%
Waterproof / Dustproof	No

Soldering characteristics

Duration at max. process temperature	10 seconds
Max. cycles at max. process temperature	1
Process temperature max.	265°C

Release date: 14.05.2019

Headers information

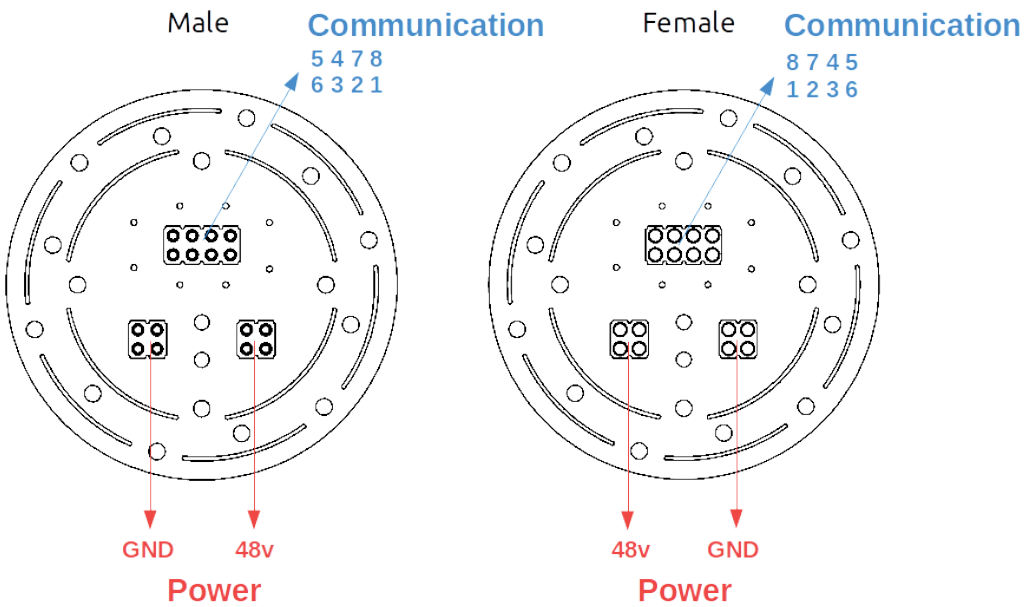
Used manufacturer part-numbers:

	Manufacturer	Part number	Description	Quantity	Datasheet
Female type	Mill-Max	419-10-208-00-008000	8 Pin connector	1	download
	Mill-Max	419-10-204-00-006000	4 Pin connector	2	download
Male type	Mill-Max	823-22-008-10-002101	8 Pin connector	1	download
	Mill-Max	823-22-004-10-002101	4 Pin connector	2	download

Connector pinout assignment

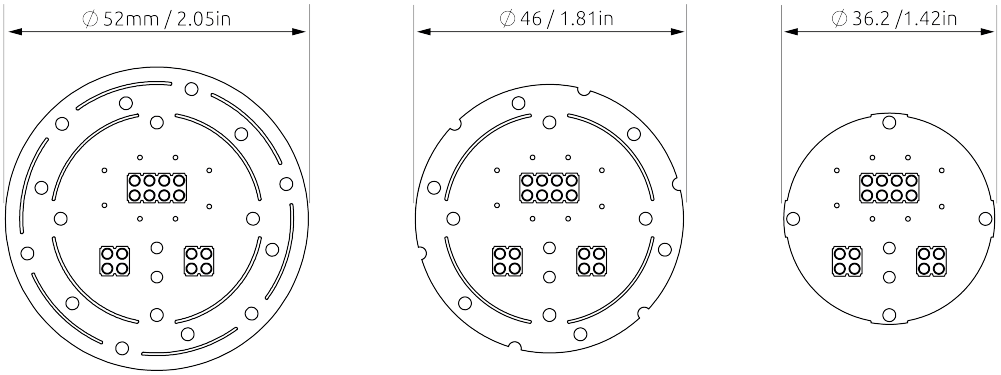
Following the T-568B standard, the pinout is assigned as follows:

Communication	Header pin-assignment	Signal
1	White & Orange	BI_DA+
2	Solid Orange	BI_DA-
3	White & Green	BI_DB+
4	Solid Blue	BI_DC+
5	White & Blue	BI_DC-
6	Solid Green	BI_DB-
7	White & Brown	BI_DD+
8	Solid Brown	BI_DD-



Mechanical drawing

The shape of the connector provides the necessary flexibility to attach it to different robot modules. The minimum valid shape is described in the right-hand side of the picture below. Other common combinations are also displayed:



3D Model

Download the .step of the H-ROS Connectors A:

Type	Description	.step
Female	Ø52 mm	download
Female	Ø46 mm	download
Female	Ø36.2 mm	download
Male	Ø52 mm	download
Male	Ø46 mm	download
Male	Ø36.2 mm	download

Product Identification

Parts are numbered as ***H-ROS_Connector-S-G-T***, where ***S*** corresponds with the connector's series (in this case, "A"), ***G*** is the connector's gender (male or female) and ***T*** is the type.

H-ROS_Connector-S-G-T
general identifier

Characteristic	Value	Description	Identifier
Series (S)	A	H-ROS Connector A	A
Gender (G)	Female	Connector gender	M
	Male	Connector gender	F
Type (T)	Ø52 mm	Connector dimension	1
	Ø46 mm	Connector dimension	2
	Ø36.2 mm	Connector dimension	3

Exemplary part numbers:

- **H-ROS_Connector-A-M-1:** Male H-ROS connector series A with 36.2mm connector dimension.
- **H-ROS_Connector-A-F-3:** Female H-ROS connector series A with 52mm connector dimension

> To obtain more information, please contact Acutronic Robotics' sales representatives at *contact@acutronicrobotics.com*

Release date: *14.05.2019*