TRS67-8I

TRS67-8O

Bus Coupler EtherCAT IP67

Documentation

Note

This instruction is used for TPA TRS67-8I and TRS67-8O Remote IO module

This instruction is about the specifications, installation, main function and the configuration process of TRS67-8I and TRS67-8O IP67 Remote IO module.

Application

This instruction application to the following

Electrical engineer

Field installation workers

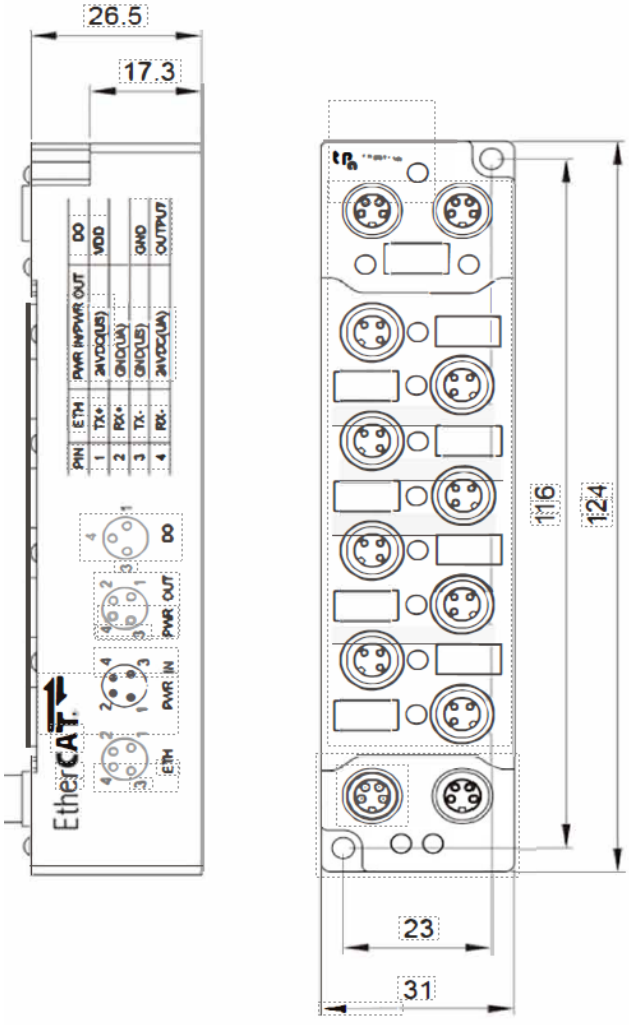
Disclaimer

This manual is based on existing information, and its contents are subject to change without notice. Tpa has done its best to ensure that its content is accurate and reliable when writing this manual, but shall not be liable for the loss and damage caused by omission, inaccuracy or typographical errors in this manual.

Product information

The TRS67-8I and TRS67-8O series remote IO module is a 8-channel industrial digital input and output module independently developed by Tpa that complies with the EtherCat communication protocol, which can help engineers quickly locate and find on-site faults and reduce maintenance costs.

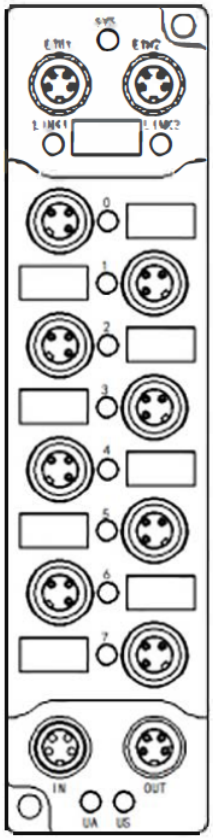
Dimensions

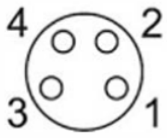


ITEM	INPUT	OUTPUT
TRS67-8I	ALL	
TRS67-8O		ALL

Description of each port

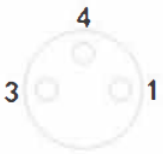
1.3.1 Signal and power





ETHERCAT1/
ETHERCAT2

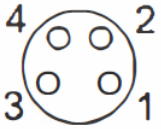
M84 pin female



1/0 MB A 3pin female

PWRIN MB

4 pinmale



PWROUT MB

4 pinfemale

Contact definition

PIN	ETHERCAT	POWER	M8 I/O
1	TD+	24V (not used for output)	24V (not used for output)
2	RD+		PIN2 I/O
3	RD-	GND	GND
4	TD-	I/O	PIN4 I/O
5			FE

Description of the light

Light indicator of EtherCAT and Power

LED	Color	Description
LINK	GN	EtherCAT port connected
	extinguish	EtherCAT port connected
RUN	GN	PLC connected

	extinguish	PLC not connected
UA	GN	UA power supply normal
	RD	UA power supply undervoltage
	extinguish	UA power supply out
US	GN	UA power supply normal
	RD	UA power supply undervoltage
	extinguish	UA power supply out
0-7	GN	UA power supply normal
	RD	UA power supply normal

Connectors

CODE	Description
TRS8.3.07	M8 CONNECTOR – ETHERCAT (IN AND OUT)
TRS8.3.08	M8 CONNECTOR - POWER IN
TRS8.3.09	M8 CONNECTOR - POWER OUT
TRS8.3.10	M8 CONNECTOR – DIGITAL INPUT/OUTPUT

2.1 Connect description

2.1.1 Shielded Cable

To avoid data damage or loss, use the EtherCat cable, ensure that the shielding layer of the cable is well grounded。

2.1.2 Power supply

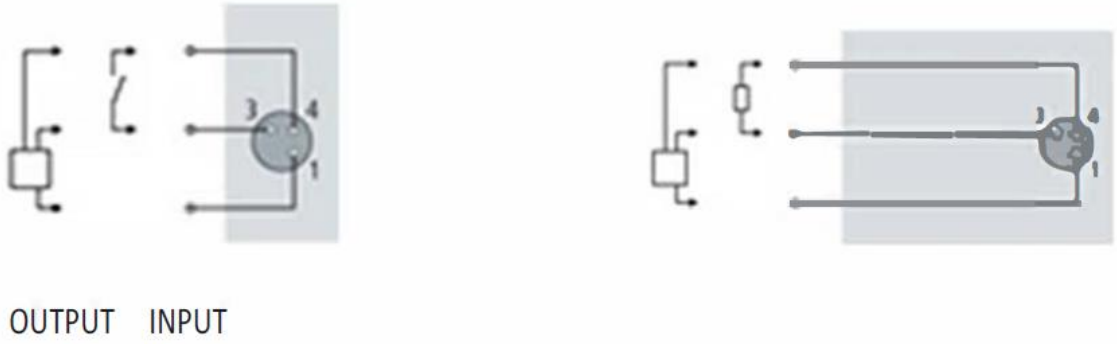
EC08 series use M8 4 pin connection. Module system and sensor use US power supply, do with UA.

Power supply range 18-30 VDC, output current 4A.

Pay attention to the current and voltage drop if the module connected in series.

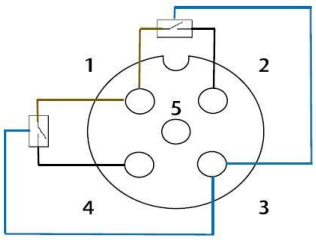
2.1.3 I/O Connection

EC08 series IO signal is PNP type. Please pay attention to the wiring method when connecting the sensor and actuator, below shown the typical connection diagram.

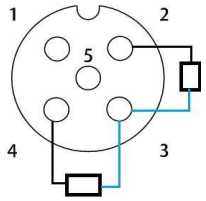


2.2 Device Fasten

TRS67-16I and TRS67-8I-8Oseries IO signal is PNP. Please pay attention to the wiring method when connecting the sensor and actuator， below shown the typical connection diagram



Typical Connection diagram input



Typical Connection diagram output

2.3 Device fasten

Please use standard \!4 screws to fix the module, the fixing surface should be kept flat, the module can not bear bending stress

Chapter three： Configuration and operation instructions

3.1 ESI file

TRS-8I and TRS-8O series use equipment description files (ESI) that comply with the EtherCat V2.3 standard

3.2 Main parameters

Housing material	PC
Filler material	Polyurethane
Metal Material	Copper nickel plated
Weight	300g
Operating temperature	-25 --- 60℃ If the deviceis used at an ambient temperature higher than 50 ° C, be careful of high temperature burns when it contact with the metal surface of the device
Storage temperature	From -30 to 70℃
Operating humidity	From 5% to 95%
Storage humidity	From 5% to 95%
Operating pressure	From 70 to 106 kPa
Protecting degree	IP67

3.3 EtherCat

Port	2
transmission	Copper cable
Connectmethod	M8 4 pin
Transmission speed	100Mbps
Device type	ETHERCAT Device
Consistency	Class B
Refresh time	2ms

3.4 US Device and sensor power supply

Connection method	M8 4 pin
Input voltage	18-30 VDC
Output current	MAX 12A

Reverse polarity protection	YES
Current consumption	120mA /no load

3.5 UA Actuator power supply

Connection method	M8 4 pin
Input voltage	18-30 VDC
Output current	MAX 12A
Reverse polarity protection	YES
Current consumption	5mA /without load

3.6 IO connection

Connection method	M8 3 pin
Type	PNP
Input type	EN 61131-2 types 2 and 3
IO typical voltage	24VDC
Actuator supply current	500mA /one signal
sensor supply current	500mA /one signal

3.7 Electrical isolation

Testing parts	Testing voltage
US power Supply/ ETH 1	500 V AC，50 Hz，1 Min。
US power supply/ ETH 2	500 V AC，50 Hz，1 Min。
US power supply/ FE	500 V AC，50 Hz，1 Min。
ETH 1 / FE	500 V AC，50 Hz，1 Min。
ETH 2 / FE	500 V AC，50 Hz，1 Min。
ETH 1 / ETH 2	500 V AC，50 Hz，1 Min。
US/ UA power supply	500 V AC，50 Hz，1 Min。
UA power supply/ ETH 1	500 V AC，50 Hz，1 Min。
UA power supply/ ETH 2	500 V AC，50 Hz，1 Min。

3.8 Mechanical test

VibrationresistanceaccordingtoEN60068-2-6/IEC60068-2-6	5 g
Shock complies with EN 60068-2-27 / IEC 60068-2-27	30g，11ms cycle，Half-sine shock pulse
ContinuousimpactaccordingtoEN60068-2-27/IEC60068-2-27	10 g

3.9 EMC test

Noise immunity test complies with EN 61000-6-2 standard	
ESD EN 61000-4-2 / IEC 61000-4-2	Standard B, 6kV contact discharge, 8kV air discharge
Electromagnetic field EN 61000-4-3 / IEC 61000-4-3	Standard A, field strength: 10 V / m

Electrical fast transient burst immunity EN 61000-4-4 /IEC 61000-4-4	Standard B, 2 kV
Surge immunity (Surge) EN 61000-4-5 / IEC 61000-4-5	Standar B，DC power cord：±0.5 kV /±0.5 kV （symmetry/Asymmetry)
Conducted interference EN 61000-4-6 / IEC 61000-4-6	Standard A；testing voltage 10 V
Noise emission test according to EN 61000-6-4	
Radio interference EN 55022	Class A