

DATA SHEET



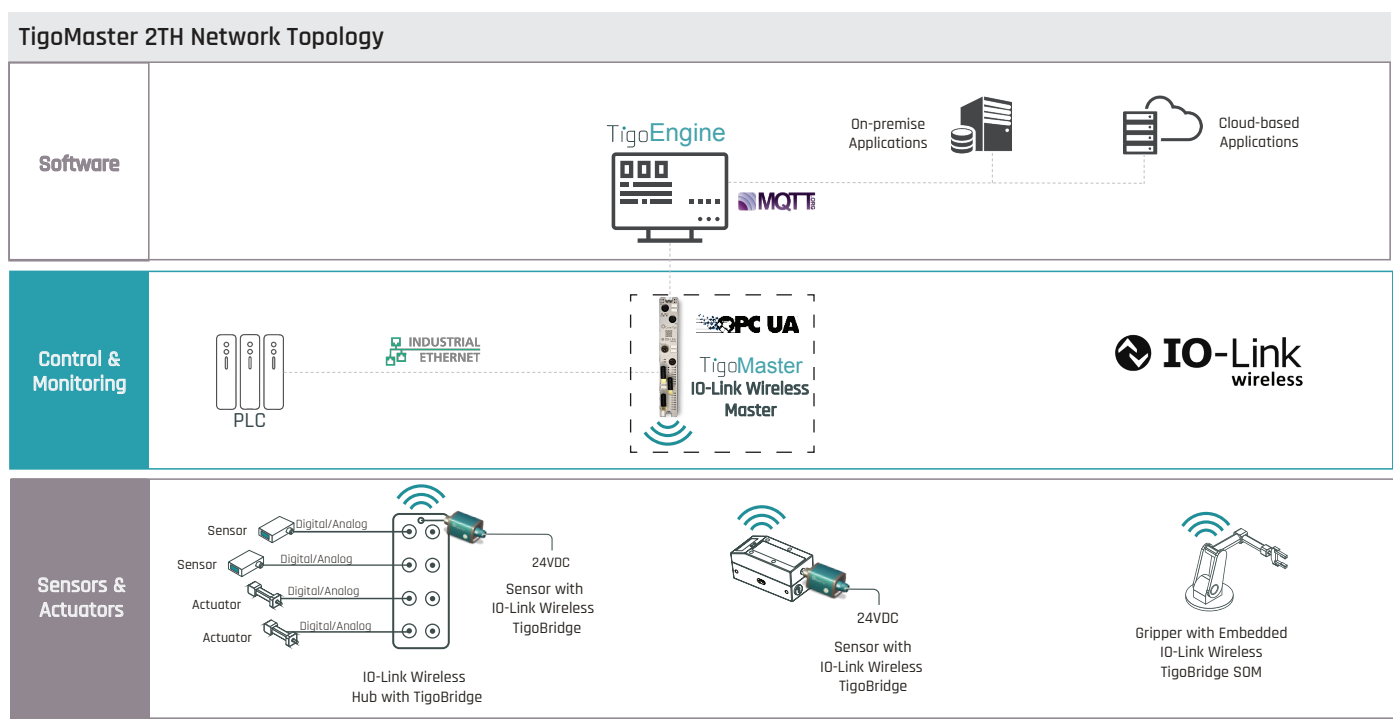
TigoMASTER 2TH-PN/ TigoMASTER 2TH-EIP/ TigoMASTER 2TH-CAT
 CT241-0003t2-02 | CT241-0004t2-01 | CT241-0008t2-01

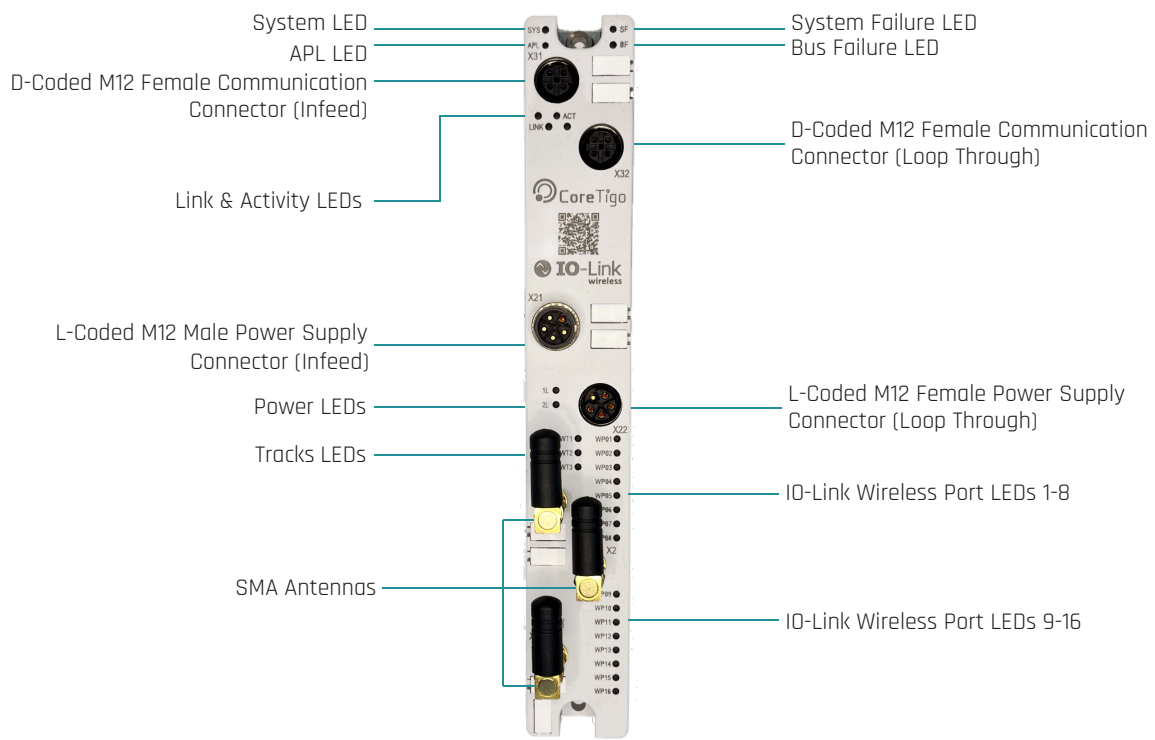
TigoMaster 2TH is an industrial-grade IP67 IO-Link Wireless Master platform. It has two IO-Link Wireless tracks, each supporting up to 8 devices, 16 IO-Link Wireless devices simultaneously. Each transmission track is designed with its own transceiver and dedicated antenna.

The TigoMaster 2TH includes interfaces to a variety of Industrial Ethernet protocols, such as EtherNet/IP, PROFINET, EtherCAT and OPC-UA. Connect directly to both the PLC and the IT network. The TigoMaster 2TH can be setup, configured and monitored by the TigoEngine (CoreTigo's Engineering Tool for IO-Link Wireless systems), via an internal Web Server interface or by a PLC.

The TigoMaster 2TH can be used in a variety of industrial applications, such as:

- Machine Retrofit - Collecting data wirelessly from multiple IO-Link Wireless sensors for condition monitoring and predictive maintenance.
- Rotating components, such as rotary tables for communicating wirelessly with IO-Link Wireless clamps, valves and sensors on board of the rotary table.
- Communicating with IO-Link Wireless end effectors on robots/cobots.
- Enabling smart transport track and conveying solutions by wirelessly communicating with IO-Link Wireless grippers and vacuum pumps on-board of fast-moving shuttles/movers.
- Communicating with IO-Link Wireless intelligent machine tools while rotating rapidly on machines such as CNC, grinding and milling.

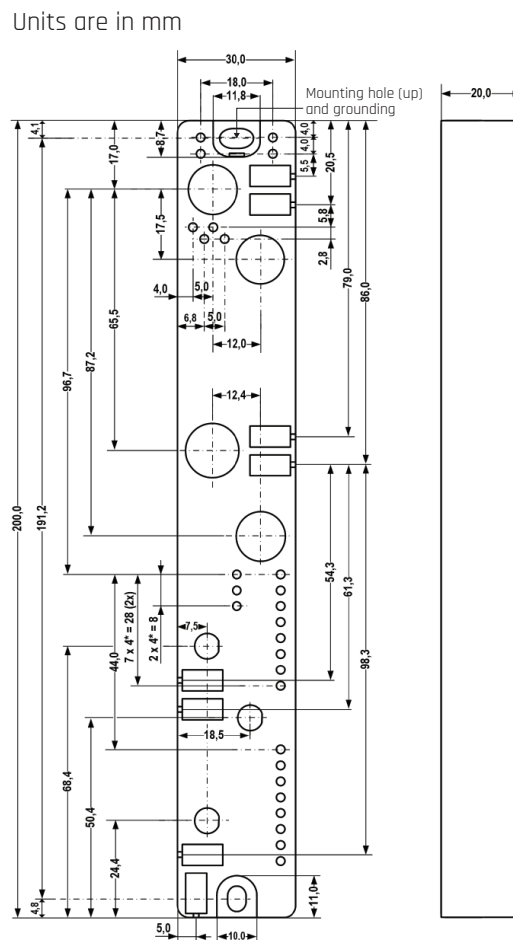




Note: Ports and LED labels may vary between models depending on Industrial Ethernet Protocols guidelines

Mechanical

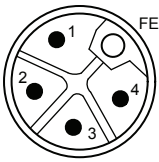
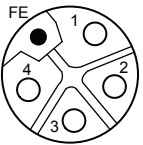
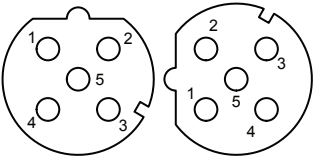
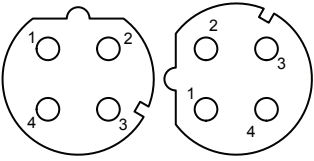
Dimensions



Electrical

Operating Voltage 24V DC, -25%/+30% (18 V DC ... 31.2 V DC)

Typical Current consumption (w/o DI/DO)
 1L: 0.2 A (at 24 V DC),
 2L: 0.1 A (at 24 V DC)

Power consumption (power connectors)	Max. 16A Max. current of the device including pass-through must not exceed 16A for 1L and 2L				
Interfaces					
LEDs	System and application	SYS	System status	green/yellow	
		APL	Application status	red/green	
	Power supply	1L (X21)	1L power supply (DC 24 V)	red/green	
		2L (X21)	2L power supply (DC 24 V)	red/green	
	EtherNet/IP communication/ PROFINET IO communication	MS/SF	Module status / Status Failure	red/green	
		NS/BF	Network status / Bus Failure	red/green	
	System and application	LINK (X31)	Link status, connector X31	green	
		ACT (X31)	Activity status, connector X31	yellow	
		LINK (X32)	Link status, connector X32	green	
		ACT (X32)	Activity status, connector X32	yellow	
Wireless tracks	WT01 ... WT03	IO-Link Wireless track status, antenna X1 ... X3	red/yellow/ green		
Wireless ports	WP01 ... WP08	Port status, IO-Link Wireless ports 1 to 8	red/yellow/ green		
	WP09 ... WP16	Port status, IO-Link Wireless ports 9 to P16	red/yellow/ green		
Connectors					
Connectors: X21 -Power-In X22 -Power-Out	Supply voltage input  M12, L-coded, plug, 5-pin (4 + FE)	Supply voltage output  M12, L-coded, socket, 5-pin (4 + FE)	Pin	Signal	Description
			1	1L+	24V DC supply voltage for system and sensor/ actuator U1L
			2	2L-	Reference potential for 2L
			3	1L-	Reference potential for 1L
			4	2L+	24V DC auxiliary/control voltage U2L
			FE	FE	Functional earth
Connectors X31, X32 EtherNet/IP	Ethernet  M12, D-coded, socket, 5-pin	Pin	Signal	Description	
		1	TX+	Send data positive	
			2	RX+	Receive data positive
			3	TX-	Send data negative
			4	RX-	Receive data negative
			5	FE	Functional earth
Connectors X31, X32 PROFINET	Ethernet  M12, D-coded, socket, 4-pin	Pin	Signal	Description	
		1	TX+	Transmit data positive	
		2	RX+	Receive data positive	
		3	TX-	Transmit data negative	
		4	RX-	Receive data negative	

Communication, Supporter Protocols		
Communication controller	Type	netX 90
Integrated memory	RAM	16MB SDRAM
	Flash	8MB
Ethernet communication	Real-Time Ethernet	PROFINET IO-Device/EtherCAT/EtherNet/IP Adapter
Ethernet interface	Interface type	100BASE-T, 10BASE-T, isolated
	Auto-negotiation, Auto crossover	yes
	Connectors	X31: Ethernet interface, M12, D-coded, port 1 X32: Ethernet interface, M12, D-coded, port 2
Communication, Supporter Protocols		
IO-Link	Radio	2 track = 16 IO-Link devices (sensors/actuators), 3 SMA antennas
		2.4GHz ISM
Mounting		
Mounting holes	<ul style="list-style-type: none"> · Mark the positions to fasten the device with screws and cut the M4 holes · Fasten the device with the screws · Ground the device · Mount all three SMA antennas 	
Operation Conditions and reliability		
Ambient conditions	Ambiant temperature range (working)	-25°C ... +70°C
	Ambient temperature (nonworking, storage)	-40°C ... +85°C
	Max. temperature change	3K/min
	Humidity	5 ... 95% relative humidity, no condensation permitted
	Operating height	0 ... 2000m
	Over voltage category	II (EN 60664-1)
Device	Dimensions (L x W x H)	200 x 30 x 20 mm
	Housing	Plastic
	Mounting/installation	Screw mounting, with 2x M4 screws to the 2 mounting holes These screws make contact to FE (functional earth)
	Tightening torque	1.2Nm
	IP rating	IP67

Certifications and Approvals

FCC	<ul style="list-style-type: none"> FCC ID: 2ATSM-COR2TH Part 15B + ICES-003 (Co-location and EMC) Part15C RSS-247 RF Exposure
CE	<ul style="list-style-type: none"> EN 301489 EN 62479 RF Exposure EN 300328 Radio EN 61326 EMC, Immunity EN 61000-6-2 RF Output IEC 62368-1 Notified Body EU Examination Certificate
Japan (MIC)	<ul style="list-style-type: none"> MIC Certificate MIC 2.4G - Final Report
Immunity	<ul style="list-style-type: none"> Electrostatic discharge (ESD) (air and contact discharge method) - EN 61000-4-2 Radiated immunity - EN 61000-4-3 Fast transient interferences (Burst) - EN 61000-4-4 Surge immunity - EN 61000-4-5 Conducted immunity - EN 61000-4-6 Wideband transmission systems - EN 300328 V2.2.2
Reach & RoHS	Complied

Technical data SMA antenna

Category	Parameter	Value
Electrical specifications	Frequency Range	2400-2500MHz
	Max Gain	1.6dBi
	Impedance	50Ω
	Polarization	Vertical
	Radiation	Omni
Mechanical specifications	Connector	Regular SMA-Male



Note: It is not permitted to use an alternative SMA antenna from the one supplied by CoreTigo Ltd. Using an alternative SMA antenna may result in a loss of device approval. Additionally, all three SMA antennas (X1, X2 and X3) must be mounted for proper device functioning.

Note: TigoMaster 2TH and the IO-Link Wireless stack on it utilize two antennas by default to support 16 IO-Link Wireless devices. The third antenna may be used for custom projects only with the support and consent of CoreTigo.

Part numbers

TigoMaster 2TH-PN - CT241-0003t2-02: PROFINET interface

TigoMaster 2TH-EIP - CT241-0004t2-01: EtherNet/IP interface

TigoMaster 2TH-CAT - CT241-0008t2-01: EtherCAT interface