

DATA SHEET



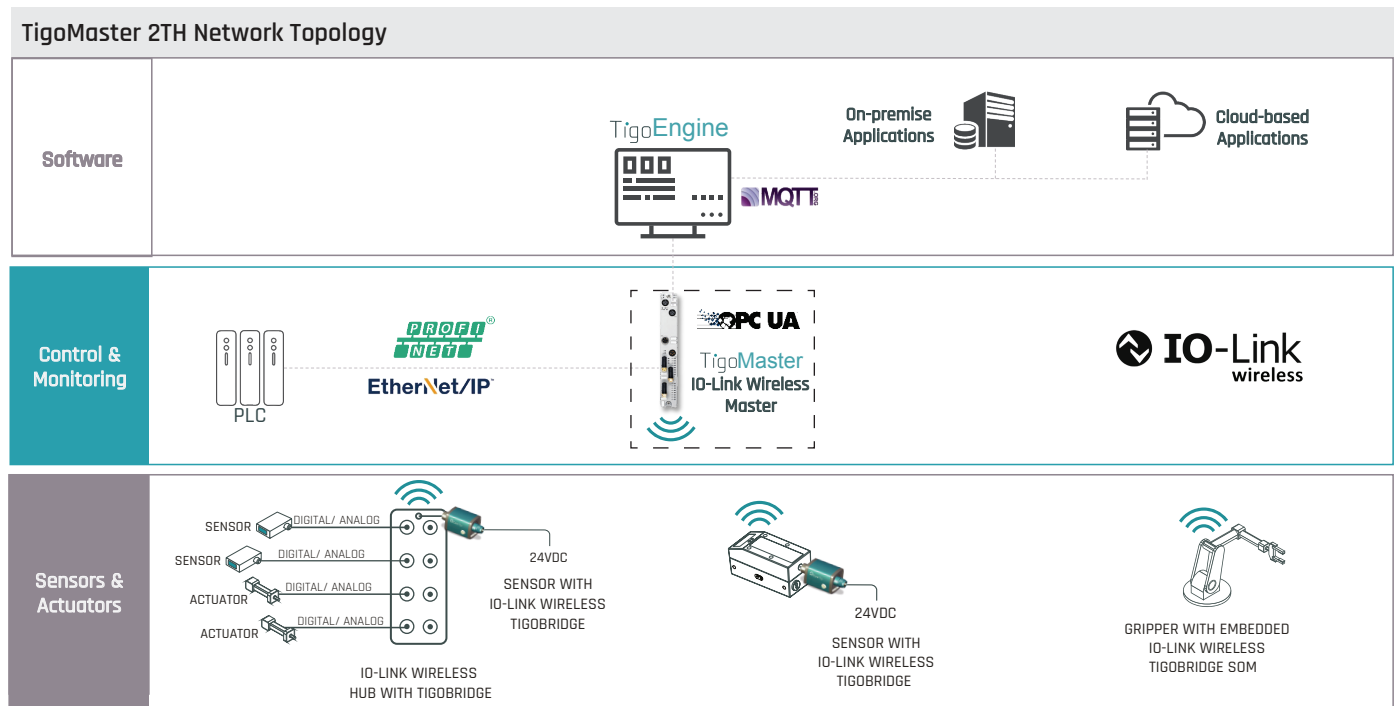
TigoMASTER 2TH-PN/ TigoMASTER 2TH-EIP - CT241-0003t2-02 / CT241-0004t2-01

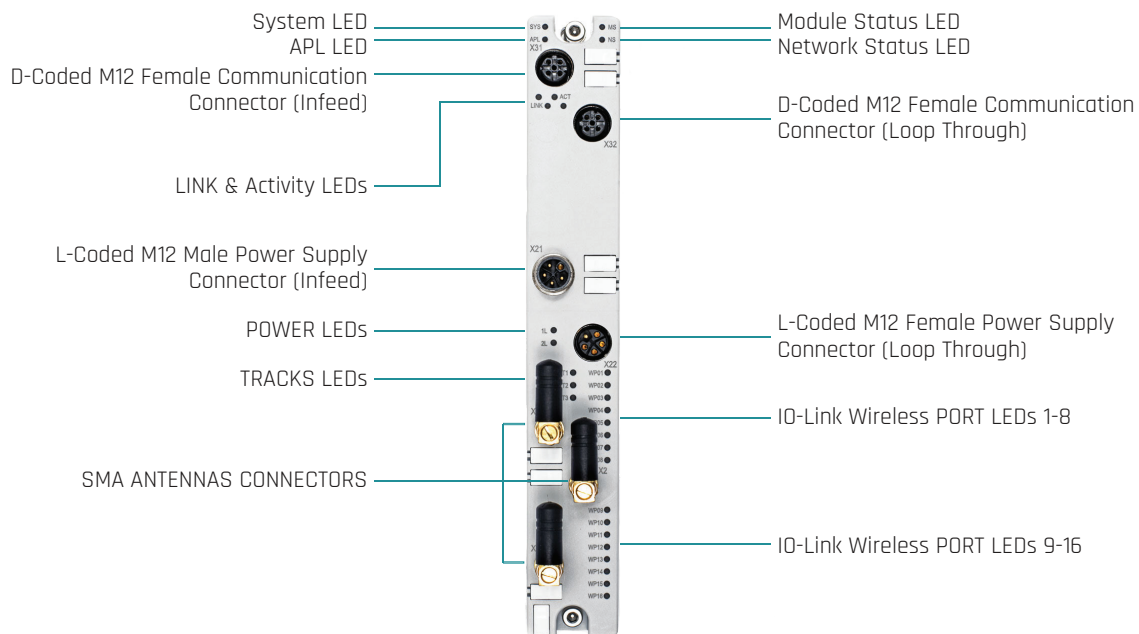
TigoMaster 2TH is an industrial-grade IO-Link Wireless Master IP67 platform. It has two IO-Link Wireless tracks, each track supporting up to 8 devices, thus supporting up to 16 IO-Link Wireless devices simultaneously. Each transmission track is designed to use its own transceiver and dedicated antenna.

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

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

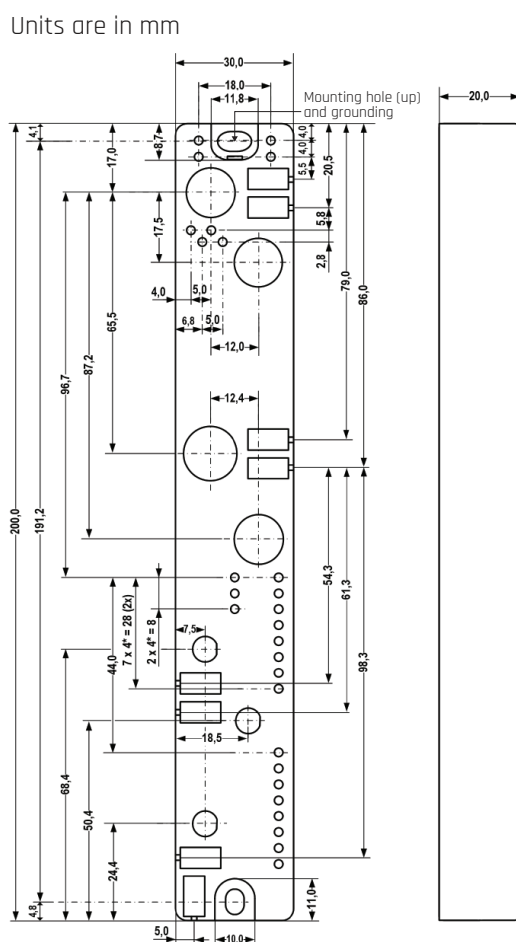
- Machine Retrofit - Collects data wirelessly from multiple IO-Link Wireless sensors for condition monitoring and predictive maintenance.
- Rotating components, such as rotary tables where it communicates wirelessly with IO-Link Wireless clamps, valves and sensors on board the rotary table.
- Communication 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 fast-moving shuttles/movers.
- Communication with IO-Link Wireless intelligent machine tools while rotating rapidly on machines such as CNC, grinding and milling.





Mechanical Data

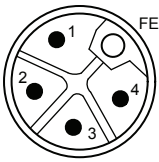
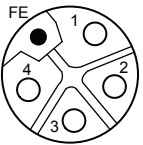
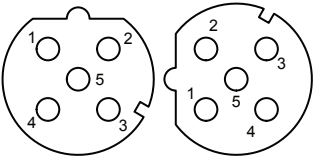
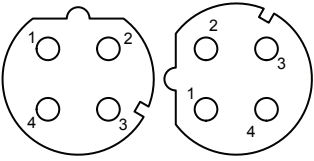
Dimensions



Electrical Data

Operating Voltage 24 V 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. 16 A Max. current of the device including pass through must not exceed 16 A 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+	24 V DC supply voltage for system and sensor/ actuator U1L	
				2	2L-	Reference potential for 2L
				3	1L-	Reference potential for 1L
				4	2L+	24 V DC auxiliary/control voltage U2L
				FE	FE	Functional earth
Connectors X31, 32 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, 32 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	16 MB SDRAM
	FLASH	8 MB
Ethernet communication	Real-Time Ethernet	PROFINET IO-Device/ EtherNet/IP Adapter
Ethernet interface	Interface type	100BASE-TX, 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, Range of the wireless function - distance: ≤ 10 m
		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
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Operation Conditions and reliability

Ambient conditions	Ambiant temperature range (working)	-25 °C ... +55 °C
	Ambient temperature (nonworking, storage)	-40 °C ... +85 °C
	Max. temperature change	3 K / min
	Humidity	5 ... 95% relative humidity, no condensation permitted
	Operating height	0 ... 2000 m
	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	1,2 Nm
	IP rating	IP67

Certifications and Approvals

Conformance with EMC directives	CE sign	Yes
	EMISSION	EN 61000-6-4
	Radiated emission	EN 55016-2-3
	Conducted emission	EN 55022
	Electromagnetic compatibility of multimedia equipment	EN 55032:2015
	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services	EN 301489-1 V2.2.3
	Part 17: Specific conditions for Broadband Data Transmission Systems	EN 301489-17 V3.1.1, EN 301489-17 V3.2.4
	IMMUNITY	EN 61000-6-2:2019-11
	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
Audio/video, information and communication technology equipment - Part 1: Safety requirements	EN 62368-1:2014 + AC:2015	

Technical data SMA antenna

Category	Parameter	Value
Electrical specifications	Frequency Range	2400-2500 MHz
	Max Gain	1.6 dBi
	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 : With PROFINET interface

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