TERZ
Industrial Electronics

NITE-T1XRS

Unmanaged Industrial Ethernet Switches

Fast Ethernet & Single Pair Ethernet

MASTER/SLAVE
Autoerkennung

Flexible networking with just one pair of wires: Master|Slave auto-detection or fixed configuration

- Flexible use with 24 VAC/VDC
- Minimal installation width 25 mm
- Temperature range -40 to +70°C
- Polarity protection
- 5x 100Base-T1 Ports IEC 63171-2
- 1x RJ45 100Base-T(X) Port
- Master|Slave configurable
- PROFINET suitable

Unmanaged Industrial Ethernet Switch

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The configurable RS51 features 5x SPE (Single Pair Ethernet) T1 ports in accordance with IEC 63171-2 and one Fast Ethernet RJ45 TX port. Using the rotary coding switch, all five SPE ports can be individually set as Master or Slave. The options for Master|Slave auto-detection enable devices to connect independently of their settings, with the T1-RS51 adjusting its role as Master or Slave accordingly. Two different options are available: With "Auto 1," the role is re-learned after a link or power-down, similar to the auto-negotiation function in standard Ethernet switches. "Auto 2" retains the learned setting per port, even after a link-down. This enables an extremely fast link establishment and is particularly suitable for applications where the connected end devices remain static regarding their settings after an initial learning process.

General

Switch: IEEE802.3 Store and Forward; non-blocking wire speed
Auto-Negotiation, Auto-MDI-X, Auto-Polarity: Yes (only RJ45)
Frame size: 1,522 Bytes
MAC table size: 2,000 addresses
Quality of Service: Yes – 4 priority queues
Energy Efficient Ethernet: No
Flow Control: No
PROFINET suitable: Yes

Port count (RJ45)	**6**
MTBF (SN 29500, Mio. h)	-
Frame Forwarding (Art.-No.)	xxxxx**0**
LLDP, PTCP Delay 01:80:C2:00:00:0E	Forwarding
RSTP BPDU 01:80:C2:00:00:00	Forwarding

Power supply / electronics

Nominal voltage: Vin 24 VAC 50/60 Hz / 24 VDC
Permitted voltage range: 8 to 28 VAC / 9 to 36 VDC
Connection type: 3-pole pluggable, screw connector (+ - FE)
Wire cross-section: 0.75 to 2.5 mm² (AWG 20 to 13)
Supply circuit: SELV DIN 60950 (circuit breaker 10 A)
Input fuse: Yes, Interrupting rating 50 A @ 125 VAC / VDC
Polarity protection: Yes
Protection category: III
Isolation: 2.25 kVDC; Vin ⇔ Ethernet Ports | Vin ⇔ housing

Port count (RJ45)		**6**
Power usage (W) Min | Max	@24VDC	1,6 **|** 1,9
	@24VAC	2,0 **|** 2,4
Input current (mA) Min | Max	@24VDC	67 **|** 80
	@24VAC	135 **|** 160

Mechanical properties

Housing material: Anodised aluminium, stainless steel
Mounting: 35 mm DIN rail
IP Protection class (operation)**:** IP30

Port count (RJ45)	**6**
Width (mm)	25
Height (mm)	103
Depth (mm)	77,4
Weight (g)	210

Ethernet Interface 1

IEEE Standards: IEEE 802.3bw 100Base-T1
Connection type: Connector acc. IEC 63171-2
Port Count | Speed: 5 | 100 Mbit/s
T1 Port Mode: configuration via rotary coding switch
Cable length: min. 15 m (Twisted Pair) up to 100 m possible

Ethernet Interface 2

IEEE Standards: 802.3 10BaseT, 802.3u 100BaseT(X)
Isolation: 2.25 kVDC; Ethernet Port ⇔ housing | Port ⇔ Port
Connection type: RJ45
Port Count | Speed: 1 | 10/100 Mbit/s
Cable length: 100 m (Twisted Pair, 0.14 mm² - 0.22 mm², Cat 5)

EMC and environmental specifications

Operating temperature: -40°C to +70°C
Storage temperature: -40°C to +85°C
Relative humidity (operation): 0%-95% (not condensing)
Relative humidity (storage): 0%-95% (not condensing)
Atmospheric pressure (operation): 2,000 m (795 hPa)
EMC immunity: DIN EN - 50121-3-2, 61000-6-2, 55024
EMC radiated emission: DIN EN - 50121-3-2, 61000-6-4, 55032
Mechanical stability: DIN EN 61373

Approvals and certifications

CE

Status and diagnostic indicators

LED: Power | Link/Activity & T1 MASTER/SLAVE per Port

Specification rotary coding switch position

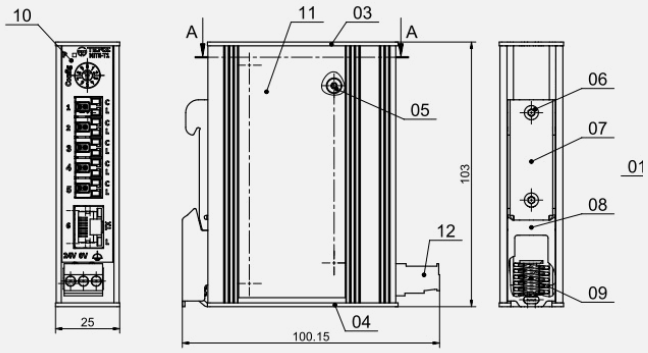
	1	2	3	4	5	6
0	Master	Master	Master	Master	Master	-
1	Master	Master	Master	Master	Slave	-
2	Master	Master	Master	Slave	Slave	-
3	Master	Master	Slave	Slave	Slave	-
4	Master	Slave	Slave	Slave	Slave	-
5	Slave	Slave	Slave	Slave	Slave	-
6	-	-	-	-	-	-
7	-	-	-	-	-	-
8	Auto 1	Auto 1	Auto 1	Auto 1	Auto 1	-
9	Auto 2	Auto 2	Auto 2	Auto 2	Auto 2	-

Auto 1: relearn after link, power down or change in switch position as with normal Ethernet switches

Auto 2: retain locking on master/slave after link down, relearn only after switch power down or change in switch position

MASTER/SLAVE auto-detection works with all end devices that use a fixed setting as MASTER or SLAVE.

Drawing



Products

Article	Art.-No.	Specification
NITE-T1XRS51-0140	201140	5x SPE, 1x RJ45, M|S configurable

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