



• Ethernet Accessories

• For the WAGO-I/O-SYSTEM

7-Port 100BASE-TX + 2-Slot 100BASE-FX Industrial Managed Switch



Features:

The 852-104 Industrial Switch is a 7-port 10/100Base-TX with dual SFP 100Base-FX port (SFP modules are optional) configurable Ethernet switch. The switch has a rugged housing, a redundant power supply and function monitoring with relay. These functions along with extensive Ethernet switch options make it ideal for a wide range of applications.

Web-based/SNMP management

- ▶ Redundant DC power supply
- ▶ Wide supply voltage range: 9 V - 48 V
- ▶ DIP switch enables alarm functions
- ▶ Full compliance with IEEE802.3, 802.3u, 802.3x, 802.1d, 802.1q, 802.1p standards
- ▶ Xpress Ring (redundant ring recovery < 50 ms)
- ▶ Non-blocking, store-and-forward switching
- ▶ Auto-negotiation on all 10/100BaseTX ports
- ▶ Auto-MDI/MDIX (crossover) on all 10/100BaseTX ports
- ▶ VLAN (802.1q) VID
- ▶ IGMP Snooping for multicast filtering
- ▶ Port configuration, status, statistics
- ▶ Port Trunking
- ▶ SNMP v1/v2 and RMON



Description	Item-No.	Pack.-unit pcs
7/2-Port 100BASE-TX/FX Industrial Managed Switch	852-104	1
Accessories		
SFP Modules 2: 1310nm, 100Base-FX Multi-mode LC, 2 km	852-201/107-002	
SFP Modules 30: 1310nm, 100Base-FX Single-mode LC, 30 km	852-201/107-030	

Technical data
2.13.2008

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Technical Data	
Ports	7 x 10/100Base-TX (RJ-45) 2 x SFP 100Base-FX Fiber
Standards	1 x RS-232 (RJ-45) IEEE 802.3u 100Base-TX/ FX; IEEE 802.3ad Port Trunking; IEEE 802.3 10Base-T; IEEE 802.1d Spanning Tree Protocol; IEEE 802.3x Flow Control; IEEE 802.1p Priority Queues; IEEE 802.1q VLAN Tagging
MAC table	Up to 2K addresses
VLANs	Port-based and Tag-based (64VIDs)
Throughputs	14,880/148,800 packets per second (pps) to 10/100 Mbps ports
Wavelength (optical fibers)	depend on SFP module
Maximun distances	10/100Base-TX: 100 m; Fiber optic: up to 30 km RS-232: 15 m
Supply voltage	DC 9 V - 48 V (line length < 30 m)
Operating temperature	0°C - +60°C
Storage temperature	-20°C - +80°C
Relative air humidity (no condensation)	95%
Dimensions (mm) W x H x L	50 x 162 x 120
Weight	approx. 780 g
Vibration resistance	acc. to IEC60068-2-6
Shock resistance	acc. to IEC60068-2-27
Degree of protection	IP 30
EMC CE-Immunity to interference	acc. to EN 61000-6-2 (2005)
EMC CE-Emission of interference	acc. to EN 61000-6-4 (2001)
UL Pending	

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ECO Series - Industrial Unmanaged Ethernet Switch 5 and 8 port



Hardware features:

- ▶ 5 or 8 port industrial switch with optional fiber optic port (multimode or singlemode)
- ▶ Redundant power inputs and surge protection
- ▶ UL/CSA, CE and Zone 2 rated for industrial applications
- ▶ DIN rail or direct panel mount (no extra kit required)

Network features:

- ▶ Store and forward wire speed switching - no delays
- ▶ Support for up to 1024 addresses
- ▶ Automatic address learning, aging and migration
- ▶ Full-Duplex operation with flow control (no collisions!)
- ▶ Auto crossover (MDI/MDIX) and auto polarity

Ethernet Compliance:

- ▶ IEEE 802.3 (10Mbps Ethernet supports older devices)
- ▶ IEEE 802.3u (Fast Ethernet 100Mbps for more recent devices)
- ▶ IEEE 802.3x (Full Duplex with Flow Control)

Description	Item-No.	Pack.-unit pcs
Industrial Ethernet Switch, 5 RJ45 10/100 Ports	51190894	1
Industrial Ethernet Switch, 4 RJ45 10/100 Ports & 1 multimode fiber optic port with SC style connector	51190895	1
Industrial Ethernet Switch, 8 RJ45 10/100 Ports	51191018	1
Power input terminal specifications		
MCS Series 231 4 pole 2 conductor	22-12 AWG Strip length: 9 - 10 mm	
Approvals		
Electrical safety		UL508/CSA C22, EN61010-1
EMI emissions		FCC part 15, ICES-003, EN55022
EMC immunity		IEC61326-1
Hazardous locations		UL1604, CSA C22.2/213 (Class 1, Div.2), EN50021/EN60079-15 (Zone 2)
Eye safety (fiber models)		IEC60825-1, Class 1, FDA 21 CFR 1040.10 and 1040.11
Packaging material and protection		UL94V0 Lexan and IP30

Technical Data	
Ethernet switch type	Intelligent store and forward
Ethernet protocols supported	All IEEE 802.3
RJ45 ports (shielded)	10/100 Base TX
RJ45 speed (10 or 100 Mbps)	Auto-negotiation
RJ45 MDI/MDIX and TD/RD	Auto-crossover and auto-polarity
Fiber optic port speed	100 BaseFX (100 Mbps)
Fiber optic port wavelength	1300 nm center
Fiber multimode (mm) typical	50 or 62.5/125 μm (SC or ST)
Fiber singlemode (sm) typical	9 or 10/125 μm (SC or ST)
Fiber max. distance (full duplex)	4 km (mm) 20 (sm) or 40 km (long haul)
Typ. latency for 100 Mbps ports	5 μs + frame time Varies on load
Fiber duplex operation	Full duplex
MAC addresses supported	1024
Memory bandwidth	3.2 Gbps
Mounting	DIN rail or direct panel mount
Power input	Redundant input terminals
Input power	2.0 W (5-port without fiber)
<i>(typical - all ports active at 100 Mbps) (Max. 6 W)</i>	3.0 W (5-port with 1 fiber)
	4.0 W (8-port without fiber)
Power input	10-30 VDC
Transient protection	15,000 Watts peak
Spike protection	5,000 Watts (10 times for 10 μs)
Ethernet isolation	1500 VRMS 1 minute
Operating temperature range	-10° to +60° C
Storage temperature range	-40° to +85° C
Humidity (non-condensing)	5 to 95% RH
Vibration	IEC68-2-6
Dimensions (L x W x H)	3.95" x 1.0" x 3.26" (5 Port)
	3.95" x 1.5" x 3.26" (8 Port)

Industrial Unmanaged 5 Port Ethernet Switch



Features:

The WAGO Industrial Ethernet Switch allows for easy installation of the Ethernet network in factory environments. This rugged switch connects to any Ethernet enabled device and provides many industrial features.

- ▶ Five Ethernet Ports that are fully IEEE 802.3 compliant
- ▶ All 10/100 RJ-45 ports are auto-detecting, auto-crossover and auto-polarity
- ▶ DIN rail or direct panel mounting (no extra kits required)
- ▶ Store & forward wire speed switching - no delays
- ▶ Full-duplex operation with flow control (no collisions!)
- ▶ Ultra-reliable with 1,000,000+ service-free hours (MTBF)
- ▶ Industrial - 40° to +85° C operating range

Unlike an Ethernet hub, the Ethernet switch does not broadcast messages to all ports. The Ethernet switch remembers which device address is connected to each port and routes messages only to that device. This minimizes data collisions and increases network deterministic behavior.



Description	Item-No.	Pack.-unit pcs
Ethernet TCP/IP Industrial ethernet switch, 5 port	758-500	1
Power input terminal specifications		
Series 739 3 pole	28-12 AWG Strip length: 8 - 9 mm	
Approvals		
Electrical safety		UL508/CSA C22, EN61010-1
EMI emissions		FCC part 15, ICES-003, EN55022
EMC immunity		IEC61326-1
Hazardous locations		UL1604, CSA C22.2/213 (Class 1, Div.2), Cenelec EN50021 (Zone 2)
Marine and off-shore		DNV (Det Norske Veritas)

Technical data
10.12.2007

WAGO Corporation

Technical Data	
Ethernet switch type	Intelligent store and forward
Ethernet protocols supported	All IEEE 802.3
RJ45 ports (shielded)	10/100 Base TX
RJ45 speed (10 or 100 Mbps)	Auto-negotiation
RJ45 MDI/MDIX and TD/RD	Auto-crossover and auto-polarity
Typ. latency for 100 Mbps ports	5 μs + frame time Varies on load
Full or half duplex operation	Yes
MAC addresses supported	1024
Memory bandwidth	3.2 Gbps
Power input	10-30 VDC
Transient protection	15,000 Watts peak
Spike protection	5,000 Watts (10 times for 10 μs)
Ethernet isolation	1500 VRMS 1 minute
Operating temperature range	-40° to +85° C
Storage temperature range	-40° to +85° C
Humidity (non-condensing)	5 to 95% RH
Vibration	IEC68-2-6
Dimensions (L x W x H)	4.75" x 0.98" x 3.17"

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Ethernet Connector, RJ-45 IP20



Features:

The 8-pole RJ-45 connector features insulation displacement contacts that allow individual conductors to be simply cut to length without requiring any stripping or ferruling. This makes installation on site in hard to reach places easier (e.g. in suspended ceilings or in distribution boxes located close to machines). Wiring can be done directly from the reel without invalidating this cost benefit by time-consuming preparation of the wire ends.



The contacts can be re-wired, they are gas tight, vibration and pull-out resistant. They can therefore be used under harsh conditions like in close proximity to machines. The wiring block accommodates shielded (UTP) and unshielded (STP) cables up to 8 mm in diameter; transmission characteristics meet the requirements of Cat. 5e (acc. to ISO/IEC 11801 and EN 50173-1).

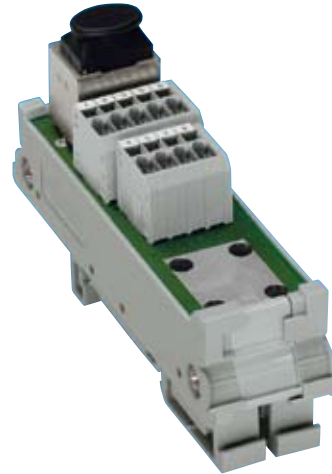
Description	Item-No.	Pack.-unit pcs
Ethernet Connector RJ-45, IP20 Tool-less RJ-45 connector	750-975	1
General Technical Data		
Poles	8	
Contact material	Bronze (CuSn6)	
Contact plating	>1.2 µm Gold over 1.2 µm Nickel	
Isolation material	Connector Polycarbonate (UL94-V0)	
Housing material	PA 6.6 plastic, gray (UL94-V0)	
Mating cycle	min. > 1000	
Connection technology	IDC / Insulation Displacement Contact in accordance with 60352-4	
Surface treatment IDC	Tin-plated, approx. 5 µm	
Cross Section	Solid: 0.13 mm ² - 0.24 mm ² AWG 26/1 - 23/1; Stranded: 0.14 mm ² - 0.26 mm ² AWG 26/7 - 23/7	
Core. isolations Ø	≤ 1.60 mm	
Outer sleeve Ø	4.5 mm - 8.0 mm	
Wire-strain relief	by means of plastic ridges	
Cable-strain relief	> 50 N	
Shield contact	>180° (cable shield)	
Shield material	(CuZn), tin-plated 3 µm	
Operating Temperature	-10° C to + 60° C	
Storage Temperature	-40° C to + 70° C	

Technical Data	
Electrical Technical Data	
Impedance	(Conductor - IDC) < 1 m (Shield - IDC) < 5 m
Connector shield	< 20 m
Insulation resistance	(100 V) (> 500 M)
Dielectric strength	(Contact-Contact) > 1000 V, 1 min. (Shield-Contact) >1500 V, 1 min.
Nominal current	1.75 A / 20° C
Approvals	Basis-Norm: IEC60602-7 RJ-45 Category 5 CD ISO/IEC 11801: 2002 EN 50173: 2002 EIA / TIA 568B: 2002

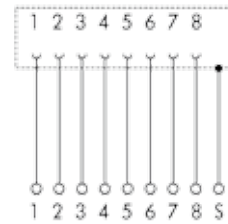
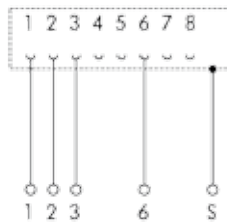
Interface Modules



289-174



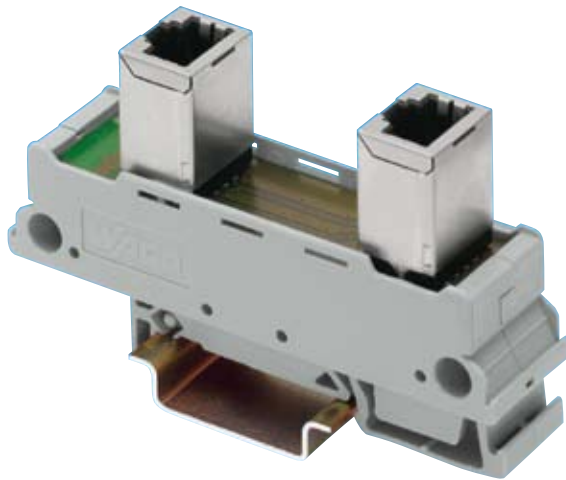
289-175



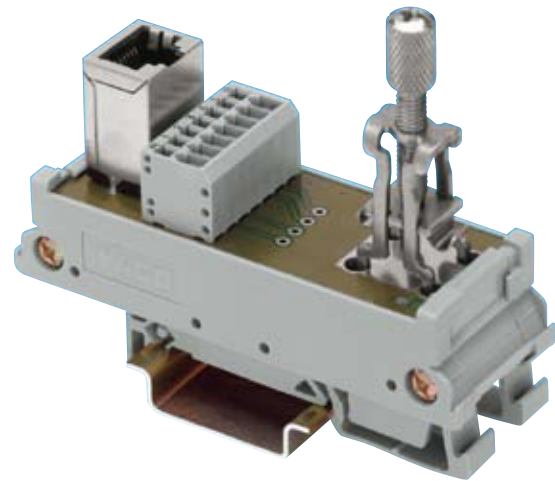
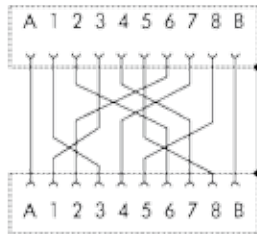
Description	Item-No.	Pack.-unit pcs
Ethernet interface module, w/RJ-45 Mounting carrier for DIN 35 rail	289-174	1
Ethernet interface module, w/RJ-45 Mounting carrier for DIN 35 rail	289-175	1
Accessories		
WAGO shield (screen) clamping saddle 11 mm wide; cable diameter up to 8 mm	790-108	1

Technical Data	
Connecting Cable	min. CAT5
Max. transmission length	100 m.
Connector:	RJ-45 shielded
Min. mating cycles:	500
Current load:	≤1.5 A
Insulation resistance	>500m
Dielectric strength (contact-contact)	1 kV eff.
Contact resistance	typ. <20m
Ambient operating temperature	-20° C to +85° C
Dimensions (mm) W x H x L	24 x 85 x 40
incl. mounting feet or mounting carrier	Height from upper edge of DIN 35
Wire connection	Terminal strips with CAGE CLAMP® (WAGO series 739)
Cross sections	0.08 mm ² - 1.5 mm ² / AWG 28-14
Stripped lengths	5 - 6 mm / 0.22 in.
Approvals	ISO / IEC 118010: 2002-09; EN 55022

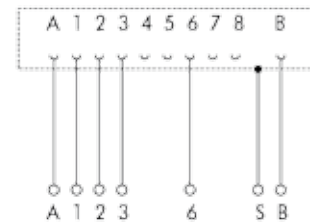
Interface Modules



289-177



289-178



Description	Item-No.	Pack.-unit pcs
Ethernet interface module, DIN 35 rail Crossover with 8 data, tp, ts	289-177	1
Ethernet interface module, DIN 35 rail Straight through	289-178	1
Accessories		
WAGO shield (screen) clamping saddle 11 mm wide; cable diameter up to 8 mm	790-108	1

Technical Data	
Connecting Cable	min. CAT5
Max. transmission length	100 m.
RJ45 Connector:	Y0ConJack-22 shielded
Min. mating cycles:	1000
Current load:	≤2.1 A
Insulation resistance	>500m
Dielectric strength (contact-contact)	1 kV eff.
Contact resistance	typ. 40m
Ambient operating temperature	-20° C to +85° C
Dimensions (mm) W x H x L	(289-178) 30 x 85 x 67 (289-177) 21 x 85 x 44
incl. mounting feet or mounting carrier	Height from upper edge of DIN 35
Wire connection	Terminal strips with CAGE CLAMP® (WAGO series 739)
Cross sections	(289-178) 0.08 mm² - 1.5 mm² / AWG 28-14
Stripped lengths	(289-178) 5 - 6 mm / 0.22 in.
Approvals	ISO / IEC 118010: 2002-09; EN 55022

Scalable Ethernet Solutions Come Full Circle

750-841:

- 32 Bit Ethernet based PLC, 10/100 Mbps
- Web-server, multitasking, real-time clock

750-341:

- 32 Bit Ethernet based Bus-Coupler, 100 Mbps

750-871:

- 32 Bit Ethernet based PLC, 10/100 Mbps
- Web-server, multitasking, real-time clock
- 2 x RJ-45

750-842:

- 16 Bit Ethernet based PLC, 10 Mbps
- Supports client/server applications

750-342:

- 16 Bit Ethernet based Bus-Coupler, 10 Mbps

750-873:

- 32 Bit Ethernet based PLC, 10/100 Mbps
- 1 x RJ-45; 1 x RS232

758-870/000-XXX

Ethernet Protocols	750-842	750-342	750-841	750-341	758-870	750-871	750-873	750-340	750-370	750-860	750-351	750-830
Modbus/TCP	●	●	●	●	●	●	●			●	●	●
Modbus/UDP	●	●	●	●	●	●	●			●		●
EtherNet/IP			●	●		●	●					
Multicast			●	●	●							
HTTP	●	●	●	●	●	●	●			●	●	●
FTP			●	●	●	●	●			●	●	●
SNMP			●	●	●	●	●					●
BootP/DHCP	●	●	●	●	●	●	●			●		●
SMTP	○	○	●	●	●	●	●					●
SOAP	○	○	○	○	○							
UCP/TAP	○	○	○	○	○							
SNTP			●	●	●	●	●			●		●
DNS			●	●	●	●	●			●		●
PROFINET								●	●			
LINUX										●		
SERCOS III											●	
BACNET/IP												●
NFS										●		

● - Supported ○ - Via Function Block Program (programmable devices only)

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