

FESTO

CPLab®

Pallet transfer line
Data sheets



SIMATIC ET 200SP, BASEUNIT BU15-P16+A0+2D, BU-TYPE A0, PUSH-IN TERMINALS, W/O AUX-TERMINALS, NEW LOADGROUP, WXH: 15MMX117MM



Figure similar

General information	
Product type designation	BU Type A0, BU15-P16+A0+2D, PU 1
Supply voltage	
Rated value (DC)	24 V
external protection for power supply lines	Yes; 24 V DC/10 A miniature circuit breaker with type B or C tripping characteristic
Current carrying capacity	
up to 60 °C, max.	10 A
Potential separation	
between backplane bus and supply voltage	Yes
between the potential groups	Yes
Isolation	
Isolation tested with	707 V DC (type test)
Dimensions	
Width	15 mm

Height	117 mm
Depth	35 mm
Weights	
Weight, approx.	40 g
last modified:	07/12/2016

SPARE PART SIMATIC DP, CPU 1510SP-1 PN FOR ET 200SP, CENTRAL PROCESSING UNIT WITH WORKING MEMORY 100 KB FOR PROGRAM AND 750 KB FOR DATA, 1. INTERFACE, PROFINET IRT WITH 3 PORT SWITCH, 72 NS BIT-PERFORMANCE, SIMATIC MEMORY CARD NECESSARY, BUSADAPTER NECESSARY FOR PORT 1 AND 2



General information	
Product type designation	CPU 1510SP-1 PN
HW functional status	FS04
Firmware version	V1.8
Engineering with	
<ul style="list-style-type: none"> STEP 7 TIA Portal configurable/integrated as of version 	V13 SP1 Update 4
Configuration control	
via dataset	Yes
Control elements	
Mode selector switch	1
Supply voltage	
Type of supply voltage	24 V DC
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
Reverse polarity protection	Yes
Mains buffering	
<ul style="list-style-type: none"> Mains/voltage failure stored energy time 	5 ms

Input current	
Current consumption (rated value)	0.6 A
Inrush current, max.	4.7 A; Rated value
I^2t	0.14 A ² ·s
Power	
Infeed power to the backplane bus	8.75 W
Power loss	
Power loss, typ.	5.6 W
Memory	
Number of slots for SIMATIC memory card	1
SIMATIC memory card required	Yes
Work memory	
• integrated (for program)	100 kbyte
• integrated (for data)	750 kbyte
Load memory	
• Plug-in (SIMATIC Memory Card), max.	32 Gbyte
Backup	
• maintenance-free	Yes
CPU processing times	
for bit operations, typ.	72 ns
for word operations, typ.	86 ns
for fixed point arithmetic, typ.	115 ns
for floating point arithmetic, typ.	461 ns
CPU-blocks	
Number of elements (total)	2 000
DB	
• Number range	1 ... 60 999; subdivided into: number range that can be used by the user: 1 ... 59 999, and number range of DBs created via SFC 86: 60 000 ... 60 999
• Size, max.	750 kbyte; For DBs with absolute addressing, the max. size is 64 KB
FB	
• Number range	0 ... 65 535
• Size, max.	100 kbyte
FC	
• Number range	0 ... 65 535
• Size, max.	100 kbyte
OB	
• Size, max.	100 kbyte
• Number of free cycle OBs	100
• Number of time alarm OBs	20

• Number of delay alarm OBs	20
• Number of cyclic interrupt OBs	20
• Number of process alarm OBs	50
• Number of DPV1 alarm OBs	3
• Number of isochronous mode OBs	1
• Number of technology synchronous alarm OBs	2
• Number of startup OBs	100
• Number of asynchronous error OBs	4
• Number of synchronous error OBs	2
• Number of diagnostic alarm OBs	1
Nesting depth	
• per priority class	24
Counters, timers and their retentivity	
S7 counter	
• Number	2 048
Retentivity	
— adjustable	Yes
IEC counter	
• Number	Any (only limited by the main memory)
Retentivity	
— adjustable	Yes
S7 times	
• Number	2 048
Retentivity	
— adjustable	Yes
IEC timer	
• Number	Any (only limited by the main memory)
Retentivity	
— adjustable	Yes
Data areas and their retentivity	
retentive data area in total (incl. times, counters, flags), max.	128 kbyte; Available retentive memory for bit memories, timers, counters, DBs, and technology data (axes): 88 KB
Flag	
• Number, max.	16 kbyte
• Number of clock memories	8; 8 clock memory bits, grouped into one clock memory byte
Data blocks	
• Retentivity adjustable	Yes
• Retentivity preset	No
Local data	
• per priority class, max.	64 kbyte; max. 16 KB per block
Address area	

Number of IO modules	1 024; max. number of modules / submodules
I/O address area	
• Inputs	32 kbyte; All inputs are in the process image
• Outputs	32 kbyte; All outputs are in the process image
per integrated IO subsystem	
— Inputs (volume)	8 kbyte
— Outputs (volume)	8 kbyte
per CM/CP	
— Inputs (volume)	8 kbyte
— Outputs (volume)	8 kbyte
Subprocess images	
• Number of subprocess images, max.	32
Address space per module	
• Address space per module, max.	32 byte; For input and output data respectively
Address space per station	
• Address space per station, max.	1 280 byte; for central inputs and outputs; depending on configuration
Hardware configuration	
Number of distributed IO systems	20
Number of DP masters	
• Via CM	1
Number of IO Controllers	
• integrated	1
• Via CM	0
Rack	
• Modules per rack, max.	64; CPU + 64 modules + server module (mounting width max. 1 m)
• Number of lines, max.	1
PtP CM	
• Number of PtP CMs	the number of connectable PtP CMs is only limited by the number of available slots
Time of day	
Clock	
• Type	Hardware clock
• Backup time	6 wk; At 40 °C ambient temperature, typically
• Deviation per day, max.	10 s; Typ.: 2 s
Operating hours counter	
• Number	16
Clock synchronization	
• supported	Yes
• to DP, master	Yes; Via CM DP module
• to DP, slave	Yes; Via CM DP module

- in AS, master
- in AS, slave
- on Ethernet via NTP

Yes
Yes
Yes

Interfaces

Number of PROFINET interfaces	1
Number of PROFIBUS interfaces	1; Via CM DP module

1. Interface

Interface types

- Number of ports 3; 1. integr. + 2. via BusAdapter
- integrated switch Yes
- RJ 45 (Ethernet) Yes; X1
- BusAdapter (PROFINET) Yes; Applicable BusAdapter: BA 2x RJ45, BA 2x FC

Functionality

- PROFINET IO Controller Yes
- PROFINET IO Device Yes
- SIMATIC communication Yes
- Open IE communication Yes
- Web server Yes
- Media redundancy Yes

2. Interface

Interface types

- Number of ports 1
- RS 485 Yes; Via CM DP module

Functionality

- PROFIBUS DP master Yes
- PROFIBUS DP slave Yes
- SIMATIC communication Yes

Interface types

RJ 45 (Ethernet)

- 100 Mbps Yes
- Autonegotiation Yes
- Autocrossing Yes
- Industrial Ethernet status LED Yes

RS 485

- Transmission rate, max. 12 Mbit/s

Protocols

Number of connections

- Number of connections, max. 64
- Number of connections reserved for ES/HMI/web 10

• Number of connections via integrated interfaces	64
• Number of S7 routing paths	16
PROFINET IO Controller	
Services	
— PG/OP communication	Yes
— S7 routing	Yes
— Isochronous mode	Yes
— Open IE communication	Yes
— IRT	Yes
— MRP	Yes; As MRP redundancy manager and/or MRP client; max. number of devices in the ring: 50
— PROFinergy	Yes
— Prioritized startup	Yes; Max. 32 PROFINET devices
— Number of connectable IO Devices, max.	64; In total, up to 189 distributed I/O devices can be connected via PROFIBUS or PROFINET
— Of which IO devices with IRT, max.	64
— Number of connectable IO Devices for RT, max.	64
— of which in line, max.	64
— Number of IO Devices that can be simultaneously activated/deactivated, max.	8
— Number of IO Devices per tool, max.	8
— Updating times	The minimum value of the update time also depends on communication share set for PROFINET IO, on the number of IO devices, and on the quantity of configured user data
Update time for IRT	
— for send cycle of 250 µs	250 µs to 4 ms; Note: In the case of IRT with isochronous mode, the minimum update time of 625 µs of the isochronous OB is decisive
— for send cycle of 500 µs	500 µs to 8 ms; Note: In the case of IRT with isochronous mode, the minimum update time of 625 µs of the isochronous OB is decisive
— for send cycle of 1 ms	1 ms to 16 ms
— for send cycle of 2 ms	2 ms to 32 ms
— for send cycle of 4 ms	4 ms to 64 ms
— With IRT and parameterization of "odd" send cycles	Update time = set "odd" send clock (any multiple of 125 µs: 375 µs, 625 µs ... 3 875 µs)
Update time for RT	
— for send cycle of 250 µs	250 µs to 128 ms
— for send cycle of 500 µs	500 µs to 256 ms
— for send cycle of 1 ms	1 ms to 512 ms
— for send cycle of 2 ms	2 ms to 512 ms
— for send cycle of 4 ms	4 ms to 512 ms

PROFINET IO Device	
Services	
— PG/OP communication	Yes
— S7 routing	Yes
— Isochronous mode	No
— Open IE communication	Yes
— IRT	Yes
— MRP	Yes
— PROFINergy	Yes
— Shared device	Yes
— Number of IO Controllers with shared device, max.	4
SIMATIC communication	
• S7 communication, as server	Yes
• S7 communication, as client	Yes
• User data per job, max.	See online help (S7 communication, user data size)
Open IE communication	
• TCP/IP	Yes
— Data length, max.	64 kbyte
— several passive connections per port, supported	Yes
• ISO-on-TCP (RFC1006)	Yes
— Data length, max.	64 kbyte
• UDP	Yes
— Data length, max.	1 472 byte
• DHCP	No
• SNMP	Yes
• DCP	Yes
• LLDP	Yes
Web server	
• HTTP	Yes; Standard and user-defined pages
• HTTPS	Yes; Standard and user-defined pages
PROFIBUS DP master	
• Number of connections, max.	48
Services	
— PG/OP communication	Yes
— S7 routing	Yes
— Data record routing	Yes
— Isochronous mode	No
— Equidistance	No
— Number of DP slaves	125
— Activation/deactivation of DP slaves	Yes

Further protocols	
• MODBUS	Yes; MODBUS TCP
Media redundancy	
• Switchover time on line break, typ.	200 ms
• Number of stations in the ring, max.	50
Isochronous mode	
Isochronous operation (application synchronized up to terminal)	Yes; Only with PROFINET; with minimum OB 6x cycle of 625 µs
S7 message functions	
Number of login stations for message functions, max.	32
Block related messages	Yes
Number of configurable alarms, max.	5 000
Number of simultaneously active alarms in alarm pool	
• Number of reserved user alarms	300
• Number of reserved alarms for system diagnostics	100
• Number of reserved alarms for Motion Control technology objects	80
Test commissioning functions	
Joint commission (Team Engineering)	Yes; Parallel online access possible for up to 3 engineering systems
Status block	Yes; Up to 8 simultaneously (in total across all ES clients)
Single step	No
Status/control	
• Status/control variable	Yes
• Variables	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
• Number of variables, max.	
— of which status variables, max.	200; per job
— of which control variables, max.	200; per job
Forcing	
• Forcing	Yes
• Forcing, variables	Peripheral inputs/outputs
• Number of variables, max.	200
Diagnostic buffer	
• present	Yes
• Number of entries, max.	1 000
— of which powerfail-proof	500
Traces	
• Number of configurable Traces	4; Up to 512 KB of data per trace are possible
Interrupts/diagnostics/status information	

Diagnostics indication LED	
• RUN/STOP LED	Yes
• ERROR LED	Yes
• MAINT LED	Yes
• Monitoring of the supply voltage (PWR-LED)	Yes
• Connection display LINK TX/RX	Yes
Supported technology objects	
Motion Control	Yes
<ul style="list-style-type: none"> Speed-controlled axis <ul style="list-style-type: none"> — Number of speed-controlled axes, max. Positioning axis <ul style="list-style-type: none"> — Number of positioning axes, max. Synchronized axes (relative gear synchronization) <ul style="list-style-type: none"> — Number of axes, max. External encoders <ul style="list-style-type: none"> — Number of external encoders, max. 	<p>6; Requirement: There must be no other motion technology objects created; note: The number of axes affects the cycle time of the PLC program; selection guide via the TIA Selection Tool</p> <p>6; Requirement: There must be no other motion technology objects created; note: The number of axes affects the cycle time of the PLC program; selection guide via the TIA Selection Tool</p> <p>3; Requirement: There must be no other motion technology objects created; note: The number of axes affects the cycle time of the PLC program; selection guide via the TIA Selection Tool</p> <p>6; Requirement: There must be no other motion technology objects created; note: The number of axes affects the cycle time of the PLC program; selection guide via the TIA Selection Tool</p>
Controller	
• PID_Compact	Yes; Universal PID controller with integrated optimization
• PID_3Step	Yes; PID controller with integrated optimization for valves
• PID-Temp	Yes; PID controller with integrated optimization for temperature
Counting and measuring	
• High-speed counter	Yes
Ambient conditions	
Ambient temperature during operation	
• horizontal installation, min.	0 °C
• horizontal installation, max.	60 °C
• vertical installation, min.	0 °C
• vertical installation, max.	50 °C
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
Configuration	
Programming	

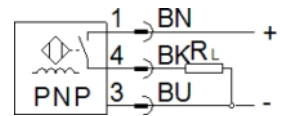
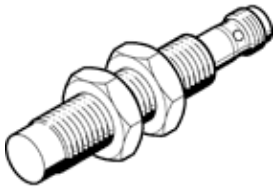
Programming language	
— LAD	Yes
— FBD	Yes
— STL	Yes
— SCL	Yes
— GRAPH	Yes
Know-how protection	
• User program protection	Yes
• Copy protection	Yes
• Block protection	Yes
Access protection	
• Protection level: Write protection	Yes
• Protection level: Read/write protection	Yes
• Protection level: Complete protection	Yes
Cycle time monitoring	
• lower limit	adjustable minimum cycle time
• upper limit	adjustable maximum cycle time
Dimensions	
Width	100 mm
Height	117 mm
Depth	75 mm
Weights	
Weight, approx.	310 g
last modified:	07/12/2016

proximity sensor SIEN-M8NB-PS-S-L

Part number: 150395

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Inductive, with standard switching distance.



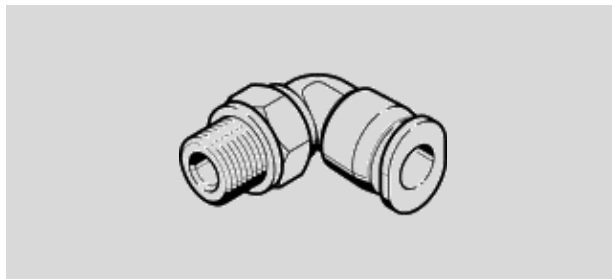
Data sheet

Feature	values
Conforms to standard	EN 60947-5-2
Authorisation	RCM Mark c UL us - Listed (OL)
CE mark (see declaration of conformity)	to EU directive for EMC
Materials note	Free of copper and PTFE
Nominal switching distance	2.5 mm
Guaranteed switching distance	2.03 mm
Reduction factors	Aluminium = 0.25 Stainless steel, St 18/8 = 0.7 Copper = 0.2 Brass = 0.35 Steel, St 37 = 1.0
Ambient temperature	-25 ... 70 °C
Repetition accuracy for constant conditions	0,12 mm
Switch output	PNP
Switching element function	Normally open contact
Hysteresis	≤ 0.12 mm
Max. switching frequency	3,000 Hz
Max. output current	200 mA
Voltage drop	≤ 2 V
Inductive protective circuit	Integrated
Short circuit strength	Pulsing
Operating voltage range DC	10 ... 30 V
Residual ripple	± 10%
Idle current	≤ 10 mA
Polarity protected	for all electrical connections
Electrical connection	Plug M8x1 3-pin
Size	M8x1
Mounting type	with lock nut
Type of installation	not flush
Product weight	18 g
Materials information, housing	Brass PA PBTP High alloy steel, non-corrosive Chromed-plated
Operating status display	Yellow LED
Ambient temperature with flexible cable installation	-5 ... 70 °C
Protection class	IP65 IP67
Corrosion resistance classification CRC	2

Data sheet: Push-in L-fitting QSML-M5-4 – #153333

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Function

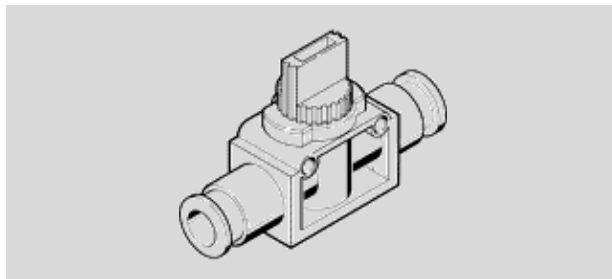
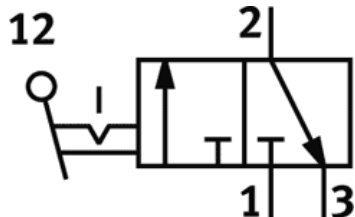


Feature	values
Size	Mini
Nominal size	1.7 mm
Type of seal on screw-in stud	Sealing ring
Assembly position	Any
Container size	10
Design structure	Push/pull principle
Temperature dependent operating pressure	-0.95 ... 14 bar
Operating medium	Compressed air in accordance with ISO8573-1:2010 [7:-:-]
Corrosion resistance classification CRC	1
Ambient temperature	-10 ... 80 °C
Authorisation	Germanischer Lloyd
Max. tightening torque	1.5 Nm
Product weight	3.5 g
Pneumatic connection	Male thread M5 for tubing, 4mm outside diameter
Colour of release ring	blue
Materials note	Conforms to RoHS
Materials information, housing	PBT
Release ring material data	POM
Materials information for tubing seal	NBR
Hose clamping segment material data	High alloy steel, non-corrosive

Data sheet: Shut-off valve HE-3-QS-6 – #153475

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Function



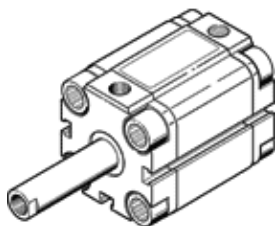
Feature	values
Valve function	3/2 bistable
Pneumatic connection, port 1	QS-6
Pneumatic connection, port 2	QS-6
Type of actuation	manual
Mounting type	Line installation with through hole Optional
Standard nominal flow rate	270 l/min
Nominal size	5 mm
Operating pressure	-0.95 ... 10 bar
Ambient temperature	0 ... 60 °C
Materials information, housing	PBT-reinforced
Operating medium	Compressed air in accordance with ISO8573-1:2010 [7:-:-]
Exhaust-air function	not throttleable
Sealing principle	soft
Assembly position	Any
Design structure	Piston slide
Type of piloting	direct
Flow direction	non reversible
Product weight	24.5 g
Pneumatic connection, port 3	Non-ducted
Materials note	Free of copper and PTFE

compact cylinder AEVUZ-16-5-P-A

Part number: 157211

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For proximity sensing, piston-rod end with female thread.



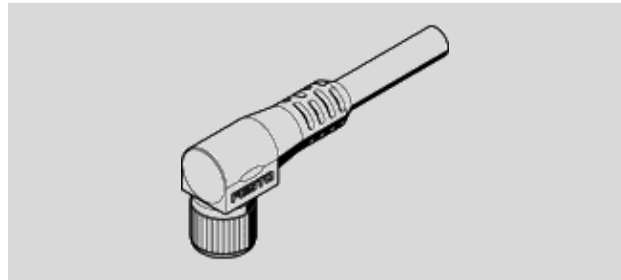
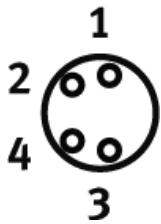
Data sheet

Feature	values
Stroke	5 mm
Piston diameter	16 mm
Cushioning	P: Flexible cushioning rings/plates at both ends
Assembly position	Any
Mode of operation	single-acting pulling action
Piston-rod end	Female thread
Design structure	Piston Piston rod
Position detection	For proximity sensor
Variants	Single-ended piston rod
Operating pressure	1.3 ... 10 bar
Operating medium	Compressed air in accordance with ISO8573-1:2010 [7:4:4]
Note on operating and pilot medium	Lubricated operation possible (subsequently required for further operation)
Corrosion resistance classification CRC	2
Ambient temperature	-20 ... 80 °C
Impact energy in end positions	0.1 J
Theoretical force at 6 bar, advance stroke	81 N
Moving mass with 0 mm stroke	12 g
Additional weight per 10 mm stroke	15 g
Basic weight for 0 mm stroke	89 g
Additional mass factor per 10 mm of stroke	4 g
Mounting type	Optional with through hole with accessories
Pneumatic connection	M5
Materials information for collar screws	High alloy steel, non-corrosive
Materials information for cover	Wrought Aluminium alloy
Materials information for dynamic seals	TPE-U(PU) NBR
Materials information for piston rod	High alloy steel, non-corrosive
Materials information for cylinder barrel	Wrought Aluminium alloy

Data sheet: Connecting cable SIM-M8-4WD-2,5-PU – #158962

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Function

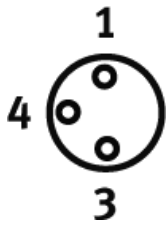


Feature	values
Conforms to standard	EN 61076-2-104 EN 61984
Cable attribute	Standard
Test conditions of cable	Chain link trunking: 5 million cycles, bending radius 75 mm Bending strength according to Festo standard Test conditions on request
Ready status display	Green LED
Operating voltage range AC	0 ... 30 V
Operating voltage range DC	0 ... 30 V
Surge strength	0.8 kV
Acceptable current load at 40°C	3 A
Degree of contamination	3
Protection class	IP65 IP68
Ambient temperature	-5 ... 70 °C -25 ... 70 °C
Cable structure	4 x 0,25 mm ²
Cable diameter	4.5 mm
Cable length	2.5 m
Nominal conductor cross-section	0.25 mm ²
Colour code, core insulation	blue brown Black white
Housing colour	Black
Cable sheath colour	Grey
Materials information for locknut	Brass Nickel plated
Materials note	Free of copper and PTFE Conforms to RoHS
Materials information, housing	TPE-U(PU)
Material information, isolating sleeve	PVC
Materials information, cable sheaths	TPE-U(PU)

Data sheet: Connecting cable SIM-M8-3GD-2,5-PU – #159420

FESTO

Function



Feature	values
Conforms to standard	EN 61076-2-104 EN 61984
Cable attribute	Standard
Test conditions of cable	Chain link trunking: 5 million cycles, bending radius 75 mm Bending strength according to Festo standard Test conditions on request
Operating voltage range AC	0 ... 60 V
Operating voltage range DC	0 ... 60 V
Surge strength	1.5 kV
Acceptable current load at 40°C	3 A
Degree of contamination	3
Protection class	IP65 IP68
Ambient temperature	-5 ... 70 °C -25 ... 70 °C
Cable structure	3 x 0,25 mm ²
Cable diameter	4.5 mm
Cable length	2.5 m
Nominal conductor cross-section	0.25 mm ²
Colour code, core insulation	blue brown Black
Housing colour	Black
Cable sheath colour	Grey
Materials information for locknut	Brass Nickel plated
Materials note	Free of copper and PTFE Conforms to RoHS
Materials information, housing	TPE-U(PU)
Material information, isolating sleeve	PVC
Materials information, cable sheaths	TPE-U(PU)

Sender SOEG-S-Q30-S-L

Teilenummer: 165353

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Datenblatt

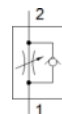
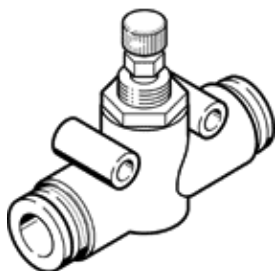
Merkmal	Werte
Entspricht Norm	EN 60947-5-2
Zulassung	RCM Mark c UL us - Listed (OL)
CE-Zeichen (siehe Konformitätserklärung)	nach EU-EMV-Richtlinie
Werkstoffhinweis	Kupfer- und PTFE-frei
Messverfahren	Einweglichtschranke Sender
Lichtart	infrarot
Umgebungstemperatur	-25 ... 55 °C
Spannungsfall	2 V
Betriebsspannungsbereich DC	10 ... 30 V
Restwelligkeit	20 %
Leerlaufstrom	25 mA
Verpolungsschutz	für alle elektrischen Anschlüsse
Elektrischer Anschluss	Stecker M8x1 3-polig
Baugröße	30x30x15 mm
Befestigungsart	mit Durchgangsbohrung
Produktgewicht	18 g
Werkstoffinformation Gehäuse	PBT-verstärkt
Einstellbereich obere Grenze	6 mm
Umgebungstemperatur bei beweglicher Kabelverlegung	-5 ... 55 °C
Schutzart	IP65
Korrosionsbeständigkeitsklasse KBK	2

one-way flow control valve GR-QS-4

Part number: 193967

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With flow adjustable in one direction.



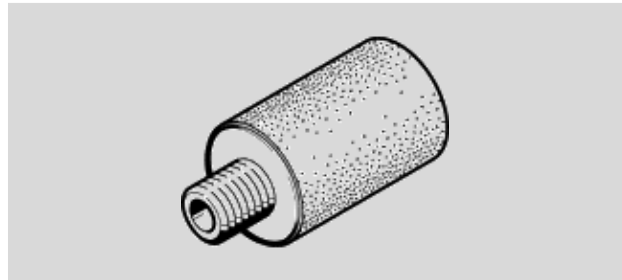
Data sheet

Feature	values
Valve function	One-way flow control function
Pneumatic connection, port 1	QS-4
Pneumatic connection, port 2	QS-4
Adjusting element	Knurled screw
Mounting type	Optional Front panel installation with through hole with accessories
Standard nominal flow rate in flow control direction	110 l/min
Standard nominal flow rate in non-return direction	165 l/min
Operating pressure	0.2 ... 10 bar
Ambient temperature	-10 ... 60 °C
Materials information, housing	PA-reinforced
Assembly position	Any
Operating medium	Compressed air in accordance with ISO8573-1:2010 [7:4:4]
Note on operating and pilot medium	Lubricated operation possible (subsequently required for further operation)
Medium temperature	-10 ... 60 °C
Product weight	12 g
Materials note	Conforms to RoHS
Materials information for seals	NBR
Release ring material data	POM
Regulating screw material data	High alloy steel

Data sheet: Silencer U-M5 – #4645

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Function



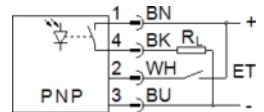
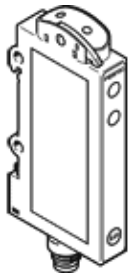
Feature	values
Assembly position	Any
Operating pressure	0 ... 10 bar
Flow rate to atmosphere	320 l/min
Operating medium	Compressed air in accordance with ISO8573-1:2010 [7:-:-]
Note on operating and pilot medium	Lubricated operation possible (subsequently required for further operation)
Sound pressure level	70 dB(A)
Ambient temperature	-10 ... 70 °C
Pneumatic connection	M5
Materials information for silencer insert	Bronze
Materials information for screw-in stud	Brass
Materials note	Free of copper and PTFE Conforms to RoHS

fibre-optic unit SOE4-FO-L-HF2-1P-M8

Part number: 552796

FESTO

Ideal for material-independent small part detection.



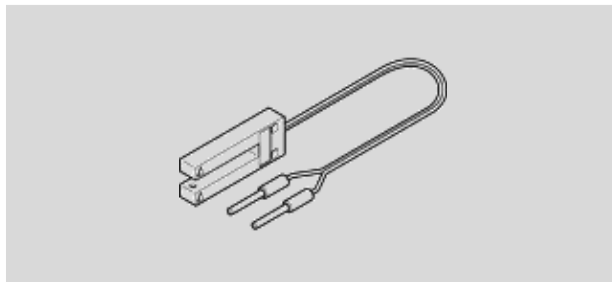
Data sheet

Feature	values
Design	Block design
Conforms to standard	EN 60947-5-2
Authorisation	RCM Mark c UL us - Listed (OL)
CE mark (see declaration of conformity)	to EU directive for EMC
Materials note	Free of copper and PTFE
Measured variable	Position
Measuring principle	Optoelectronic
Measurement method	Fibre-optic unit
Type of light	Red
Mutual influence	Protected Up to four devices mounted directly next to one another
Ambient temperature	-20 ... 60 °C
Switch output	PNP
Switching element function	Switchable
Max. switching frequency	1,500 Hz
Max. output current	100 mA
Voltage drop	≤ 2.4 V
Timer function	1 - 2000 ms
Short circuit strength	Pulsing
Operating voltage range DC	10 ... 30 V
Residual ripple	10 %
Idle current	≤ 25 mA
Polarity protected	For all operating voltage connections
Electrical connection	Plug M8x1 4-pin
Mounting type	with through hole with top-hat rail
Assembly position	Any
Product weight	17 g
Materials information, housing	ABS
Display	LED
Operating status display	Yellow LED
Operating reserve display	Green LED
Setting options	Teach-In Teach-in via electrical connection
Protection class	IP64
Insulation voltage	50 V
Corrosion resistance classification CRC	4

Data sheet: Fibre-optic cable SOOC-TB-P-C5-2-R10 – #552828

FESTO

Function



Feature	values
Materials note	Contains PWIS substances
Measurement method	Fork light barrier
Minimal object diameter	0.2 mm
Fibre-optic cable - special feature	Fork light barrier
Working range	5 mm
Ambient temperature	-55 ... 70 °C
Size, head	Rectangle 41x15x7mm Fork pit 5x29mm
Fibre optic cable length	2 m
Min. bending radius	10 mm
Outside diameter	1.25 mm
Materials information, housing	ABS
Material information, fibre optic cable	PE
Protection class	IP66
Corrosion resistance classification CRC	1

electrical connection box VAVE-L1-1VK6-LP

Part number: 573941

FESTO



Data sheet

Feature	values
Assembly position	Any
Cable attribute	For static applications
Polarity protected	Bipolar
Additional functions	Spark arresting
Signal status display	LED
Nominal operating voltage DC	12 V 24 V
Corrosion resistance classification CRC	0
Protection class	IP65
Ambient temperature	-5 ... 60 °C
Max. tightening torque	0.27 Nm
Min. cable bending radius	34 mm
Product weight	11 g
Electrical connection	Angled socket / cable Square design/open end 2-pin / 2-wire
Cable structure	2x0,25
Cable diameter	3.4 mm
Cable diameter tolerance	± 0,2 mm
Cable length	0.5 m
Protective earth connection	Not available
Mounting type	On solenoid valve with self-tapping screw
Housing colour	Black
Materials note	Conforms to RoHS
Materials information, housing	PA
Materials information, cable sheaths	TPV

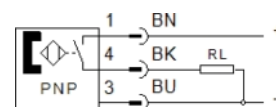
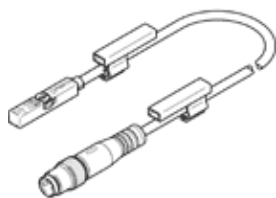
proximity sensor SMT-8M-A-PS-24V-E-0,3-M8D

Part number: 574334

★ Core product range

Magnetic, contactless, for T-slot.

FESTO



Data sheet

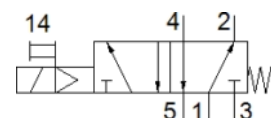
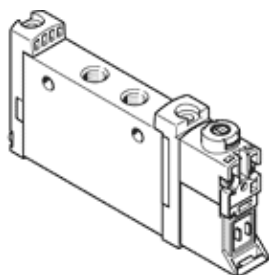
Feature	values
Design	for T-slot
Based on the standard	EN 60947-5-2
Authorisation	RCM Mark c UL us - Listed (OL)
CE mark (see declaration of conformity)	to EU directive for EMC
Special characteristics	Oil resistant
Materials note	Free of copper and PTFE Conforms to RoHS Halogen-free
Measured variable	Position
Measuring principle	Magnetoresistive
Ambient temperature	-40 ... 85 °C
Switch output	PNP
Switching element function	Normally open contact
Switching output repetition accuracy in ± mm	0.1 mm
Switch-on time	≤ 1.3 ms
Switch-off time	≤ 1.4 ms
Max. switching frequency	180 Hz
Max. output current	100 mA
Max. output current in mounting kits	100 mA
Max. contact rating DC	2.8 W
Max. switching capacity DC in mounting kits	2.8 W
Voltage drop	< 1.5 V
Short circuit strength	Yes
Overload withstand capability	Available
Nominal operating voltage DC	24 V
Operating voltage range DC	5 ... 30 V
Polarity protected	for all electrical connections
Electrical connection	Cable with plug M8x1 3-pin Turnable threads
Connector exit direction	axial
Test conditions of cable	Bending strength according to Festo standard Test conditions on request Chain link trunking: 5 million cycles, bending radius 28 mm Torsion resistance: > 300,000 cycles, ±270°/0.1 m
Cable length	0.3 m
Cable attribute	Energy chain + robot
Cable sheath colour	Grey
Materials information, cable sheaths	TPE-U(PUR)
Mounting type	Tightened Insertable in slot from above
Max. tightening torque	0.6 Nm

Feature	values
Assembly position	Any
Product weight	8.9 g
Housing colour	Black
Materials information, housing	Nickel-plated brass PA-reinforced High alloy steel, non-corrosive
Operating status display	Yellow LED
Operating reserve display	LED orange
Ambient temperature with flexible cable installation	-20 ... 85 °C
Protection class	IP65 IP68 IP69K

solenoid valve VUVG-L10-M52-MT-M5-1P3

Part number: 574351

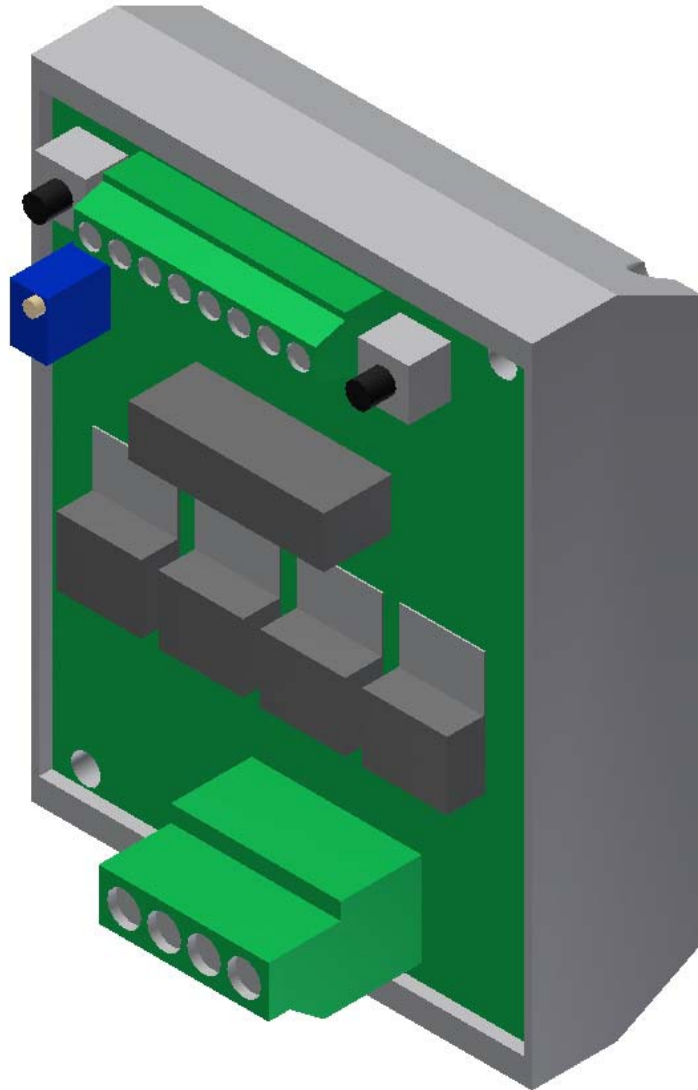
FESTO



Data sheet

Feature	values
Valve function	5/2 monostable
Type of actuation	electrical
Valve size	10 mm
Standard nominal flow rate	190 l/min
Operating pressure	3 ... 8 bar
Design structure	Piston slide
Type of reset	mechanical spring
Protection class	IP40 IP65 with plug socket
Authorisation	RCM Mark c CSA us (OL) c UL us - Recognized (OL)
Nominal size	2.2 mm
Exhaust-air function	throttleable
Sealing principle	soft
Assembly position	Any
Manual override	detenting Pushing Covered
Type of piloting	Piloted
Pilot air supply	Internal
Note on forced dynamisation	Switching frequency at least once a week
Pilot pressure	3 ... 8 bar
Suitability for vacuum	No
Switching time off	24 ms
Switching time on	8 ms
Duty cycle	100%
Characteristic coil data	24 V DC: 1 W 24 V DC: low-current phase 0.3 W, high-current phase 1.0 W
Permissible voltage fluctuation	+/- 10 %
Operating medium	Compressed air in accordance with ISO8573-1:2010 [7:4:4]
Note on operating and pilot medium	Lubricated operation possible (subsequently required for further operation)
Restriction ambient and medium temperature	-5 - 50 °C Without holding current reduction
Corrosion resistance classification CRC	2
Medium temperature	-5 ... 60 °C
Ambient temperature	-5 ... 60 °C
Product weight	44 g
Electrical connection	Via electrical connection plate
Mounting type	Optional on manifold rail with through hole
Pneumatic connection, port 1	M5
Pneumatic connection, port 2	M5

Feature	values
Pneumatic connection, port 4	M5
Pneumatic connection, port 5	M5
Materials note	Conforms to RoHS
Materials information for seals	HNBR NBR
Materials information, housing	Wrought Aluminium alloy

**Beschreibung**

Elektronik für permanentmagneterregte DC-Motoren bis ca. 200W

Das Modul M-MZ-4-30 ist eine zweiquadranten Motorsteuerung für DC-Motoren mit Links-Rechtslauf. Sie gewährleistet das sichere Ein - Ausschalten sowie die Drehrichtungssteuerung von Motoren. Im Aus-Zustand wird die Last kurzgeschlossen, dadurch ergibt sich eine dynamische Bremsung. Durch den Eingang SLOW kann zwischen Langsamfahrt (Einstellung am Tr1) und volle Drehzahl umgeschaltet werden. Am Eingang STOP kann ein Endschalter angeschlossen werden.

Allgemeine Hinweise

Lesen Sie diese Kurzbeschreibung vollständig durch. Beginnen Sie erst dann mit dem Einbau.

Vor der Inbetriebnahme:

Schalten Sie die Spannung aus, bevor Sie Steckverbinder zusammenstecken oder trennen (Funktionsschädigung).

Vor Reparatur- oder Wartungsarbeiten sind alle elektrischen Versorgungsleitungen zu trennen.

Sicherheitshinweise

Max. Betriebsdaten

Die im Kapitel „Technische Daten“ angegebenen max. Daten dürfen nicht überschritten werden.

Installation

Die Installation und Inbetriebnahme darf nur von Fachpersonal vorgenommen werden. Alle betroffenen Komponenten müssen stromlos sein.

Inbetriebnahme

Für die Erstinbetriebnahme soll der Motor ohne Last betrieben werden.

Lebensgefahr

Nach dem Einschalten keine spannungsführenden Teile berühren!

Einsatzgebiet

Die Motorsteuerung darf nur für Anwendungen eingesetzt werden, die im Kapitel „Beschreibung-Anwendung“ aufgeführt sind. Die sonstigen Komponenten sind auf ihre Zulassungen und Vorschriften zu prüfen.

Sicherheitseinrichtungen

Es muß durch eine zusätzliche Sicherheitseinrichtung bei Kabelbruch, Fehlbedienung, Ausfall der Steuer-/Regeleinheit, usw. die Anlage in einen definiert sicheren Zustand gebracht werden.

EMV

Um eine kompl. Anlage den Richtlinien der EMV gerecht zu werden, sollten abgeschirmte Motorleitungen verwendet werden.

In die Motorleitungen sollte eine Motordrossel (siehe Kapitel „Technisch Daten“ eingebaut werden.

Bei langen Signalleitungen z.B. Analog-Sollwerte sollten abgeschirmte Signalleitungen eingesetzt werden.

Reparaturen

Eine Reparatur kann nur eine autorisierte Person durchführen. Durch unbefugtes Öffnen erlischt der Garantieanspruch und es können Gefahren für den Benutzer und für die Anlage entstehen.

Wartung

Die Motorsteuerung ist verschleißfrei aufgebaut. Es sollte in regelmäßigen Abständen die freie Luftzirkulation an den Kühlöffnungen überprüft werden. Gegebenenfalls sind die Kühlöffnungen zu reinigen.

Beschreibung

Anwendung:

Motorsteuerungen für bürstenbehaftete Motoren
elektronisches Lastrelais für Magnetventile und diverse Lasten

Eigenschaften

- Link/Rechtslauf
- Umschaltung zwischen voller Drehzahl und der am TR.1 eingestellten Drehzahl
- Anschluss für Endschalter für Stop
- Kurzschlussfest und Temp. geschützt

06.05.020

4Q-Motorregler DC

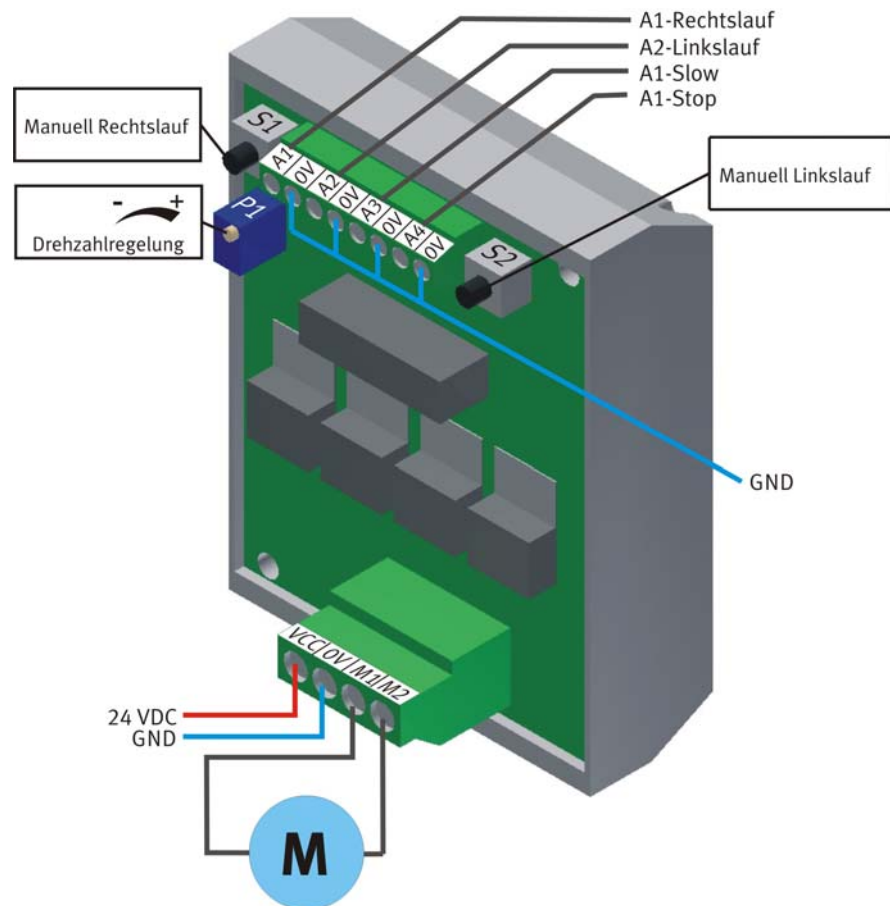
Technische Daten

Typ: M-MZS-4-30

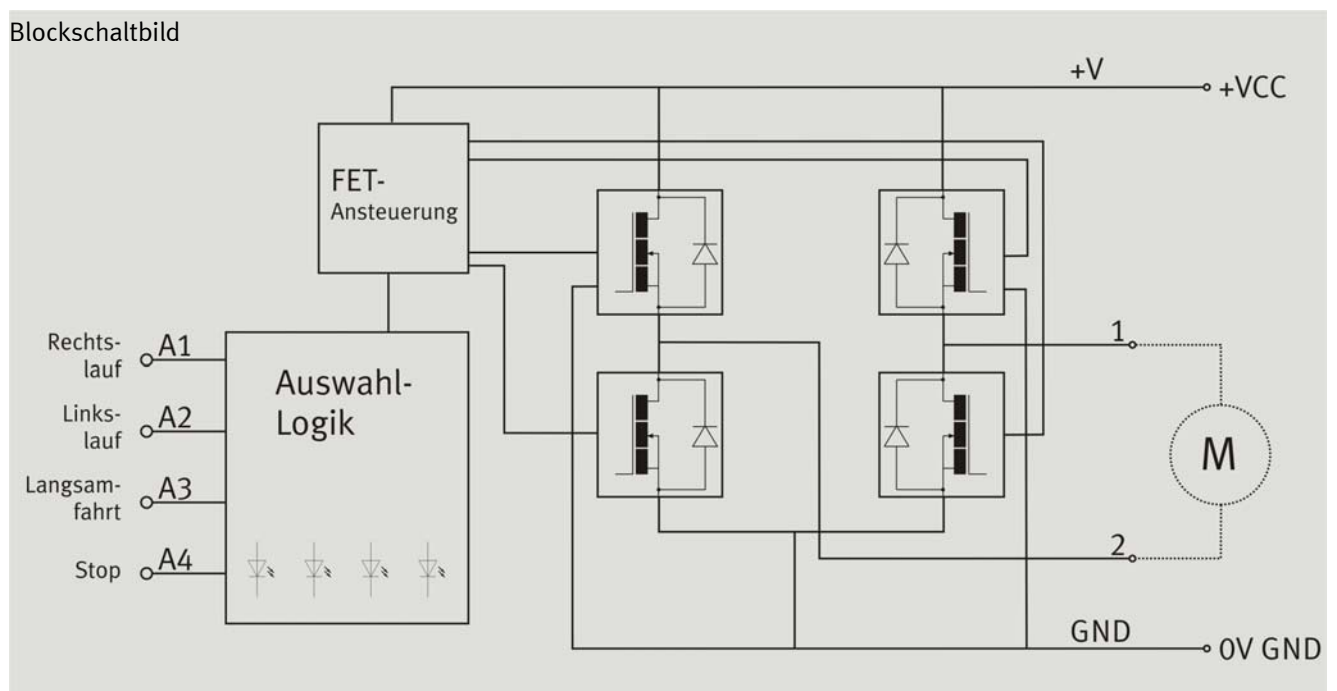
Artikel Nummer 06.05.020

Technisch Daten				
Steuerkreis	Eingang A1/A2 A1=Start Rechtslauf A2=Start Linkslauf	Einschaltwelle	8	(V)
		Ausschaltwelle	5	(V)
		Zul.Bereich	0-35	(V)
	Eingang A3/A4 A3=Langsamfahrt A4=Stop	Schaltwelle	8	(V)
		Zul.Bereich	0-35	(V)
	Einstellbereich Drehzahl mit Trimmer an Frontplatte (Typisch)		0 bis max. Drehzal	
	Einschaltverzögerung bei A1 und A2 auf 24V		< 2	(ms)
Lastkreis	Nennspannung (Versorgungsspannung) Ub/Bereich		24 (19-30)	(VDC)
	Laststrom/Dauerbelastung		3/5 je nach Schaltfrequenz	(A)
	Eingangsstrom bei Un / ohne Lastkreis		T 10 mA	(mA)
	Laststrom I _{max} . T=1 sec.		20	(A)
	Stromerkennung Kurzschluß		95 Typ. (45-140)	A
	Abschaltzeit Kurzschluß		80-400	µs
Sonstige Daten	Stromzufuhr bei Stop		<20	(mA)
	Zulässige Umgebungstemperatur		-20 bis +40	(C°)
	DIN VDE-Bestimmungen		0110, 0160 in Teilen	
	Belieb. Einbaulage / DIN-Schiene aufschnappbar		Nein / Ja	
	Gehäuse		Kunststoffgehäuse hellgrau	
	Abmessungen		59x77x50	mm
	Gewicht		ca 100	G
	Temp.-/Kurzschlußschutz		Ja / Ja	
	Anschlußart Schraubanschluß		Eindr. 4mm ² , feindr. 2,5mm ² Ja	

Anschlussplan

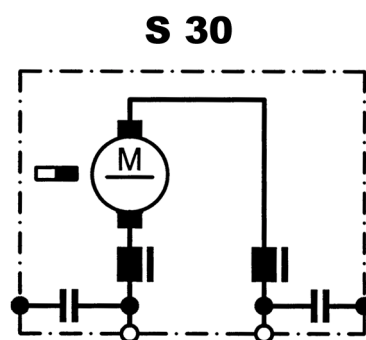
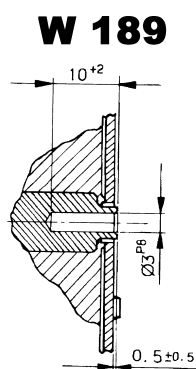
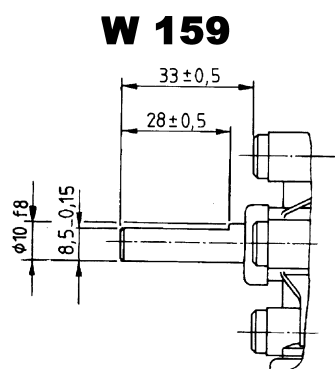
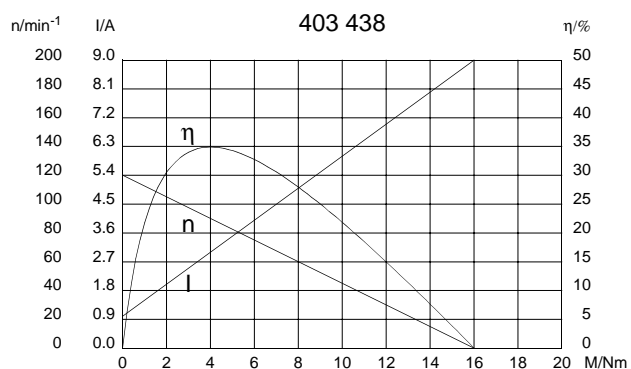
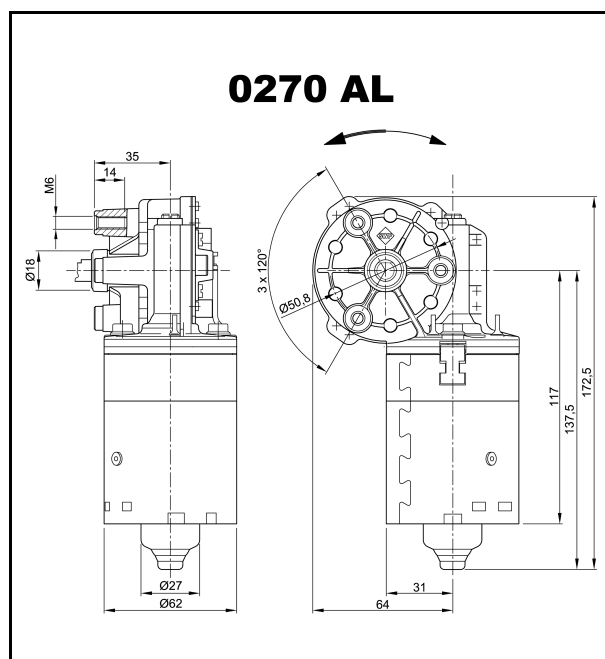


Blockschaltbild



Technical Data

Rated voltage	U_N	[Volt]	36 (24)
Idle speed	n_0	$[\text{min}^{-1}]$	120 (80)
Rated torque	M_N	[Nm]	2,0
ON time		%	
ON		[min]	
Start-up torque	M_A	[Nm]	16,0 (10)
Transmission ratio	i		53/2
Connection resistance 2 discs	R	$[\text{m}\Omega]$	3400,0
4 discs	R	$[\text{m}\Omega]$	3000,0
Connection inductance 2 discs	L	[mH]	6,90
4 discs	L	[mH]	6,00
Impeller moment of inertia	J_R	$[\text{kgm}^{-2}] \times 10^{-1}$	55,0
Gear wheel material		Plastic	
Hall IC			
Pulses/rev. drive shaft			
Output channels			
Remarks			
Level of protection			IP 30
Weight		[kg]	1.20



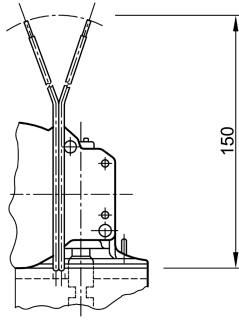
Subject to change and error, also of a technical nature.

Series 0270 (SWMK)

Motor type 403 438



K 59



Subject to change and error, also of a technical nature.

SIMATIC HMI TP700 COMFORT, COMFORT PANEL, TOUCH OPERATION, 7" WIDESCREEN-TFT-DISPLAY, 16 MIL. COLORS, PROFINET INTERFACE, MPI/PROFIBUS DP INTERFACE, 12 MB USER MEMORY, WINDOWS CE 6.0, CONFIGURABLE FROM WINCC COMFORT V11



General information	
Product type designation	SIMATIC HMI TP700 Comfort
Display	
Design of display	TFT
Screen diagonal	7 in
Display width	152.4 mm
Display height	91.4 mm
Number of colors	16 777 216
Resolution (pixels)	
• Horizontal image resolution	800 Pixel
• Vertical image resolution	480 Pixel
Backlighting	
• MTBF backlighting (at 25 °C)	80 000 h
• Backlight dimmable	Yes; 0-100 %
Control elements	
Keyboard fonts	
• Function keys	
— Number of function keys	0

• Keys with LED	No
• System keys	No
• Numeric/alphabetical input	
— Numeric keyboard	Yes; Onscreen keyboard
— alphanumeric keyboard	Yes; Onscreen keyboard
Touch operation	
• Design as touch screen	Yes
Expansions for operator control of the process	
• DP direct LEDs (LEDs as S7 output I/O)	
— F1...Fx	0
• Direct keys (keys as S7 input I/O)	
— F1...Fx	0
• Direct keys (touch buttons as S7 input I/O)	32
Installation type/mounting	
Mounting position	vertical
Mounting in portrait format possible	Yes
Mounting in landscape format possible	Yes
maximum permissible angle of inclination without external ventilation	35°
Supply voltage	
Type of supply voltage	DC
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
Input current	
Current consumption (rated value)	0.5 A
Starting current inrush I ² t	0.5 A ² ·s
Power	
Power consumption, typ.	12 W
Processor	
Processor type	X86
Memory	
Flash	Yes
RAM	Yes
Memory available for user data	12 Mbyte
Type of output	
Info LED	No
Power LED	No
Error LED	No
Acoustics	

<ul style="list-style-type: none"> • Buzzer • Speaker 	No Yes
Time of day	
Clock	
<ul style="list-style-type: none"> • Hardware clock (real-time) 	Yes
<ul style="list-style-type: none"> • Software clock 	Yes
<ul style="list-style-type: none"> • retentive 	Yes; Back-up duration typically 6 weeks
<ul style="list-style-type: none"> • synchronizable 	Yes
Interfaces	
Number of industrial Ethernet interfaces	1; 2 ports (switch)
Number of RS 485 interfaces	1; RS 422/485 combined
Number of USB interfaces	2; USB 2.0
Number of USB Mini B interfaces	1; 5-pole
Number of 20 mA interfaces (TTY)	0
Number of RS 232 interfaces	0
Number of RS 422 interfaces	0; together with RS485
Number of parallel interfaces	0
Number of other interfaces	0
Number of SD card slots	2
With software interfaces	No
Industrial Ethernet	
<ul style="list-style-type: none"> • Industrial Ethernet status LED 	2
<ul style="list-style-type: none"> • Number of ports of the integrated switch 	2
Protocols	
PROFINET	Yes
Supports protocol for PROFINET IO	Yes
IRT	Yes; As of WinCC V12
MRP	Yes; As of WinCC V12
PROFIBUS	Yes
MPI	Yes
Protocols (Ethernet)	
<ul style="list-style-type: none"> • TCP/IP 	Yes
<ul style="list-style-type: none"> • DHCP 	Yes
<ul style="list-style-type: none"> • SNMP 	Yes
<ul style="list-style-type: none"> • DCP 	Yes
<ul style="list-style-type: none"> • LLDP 	Yes
WEB characteristics	
<ul style="list-style-type: none"> • HTTP 	Yes
<ul style="list-style-type: none"> • HTTPS 	Yes
<ul style="list-style-type: none"> • HTML 	Yes
<ul style="list-style-type: none"> • XML 	Yes

• CSS	Yes
• Active X	Yes
• JavaScript	Yes
• Java VM	No
Further protocols	
• CAN	No
• MODBUS	Yes
• EtherNet/IP	Yes
EMC	
Emission of radio interference acc. to EN 55 011	
• Limit class A, for use in industrial areas	Yes
• Limit class B, for use in residential areas	No
Degree and class of protection	
IP (at the front)	IP65
Enclosure Type 4 at the front	Yes
Enclosure Type 4x at the front	Yes
IP (rear)	IP20
Standards, approvals, certificates	
CE mark	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
Marine approval	
• Germanischer Lloyd (GL)	Yes
• American Bureau of Shipping (ABS)	Yes
• Bureau Veritas (BV)	Yes
• Det Norske Veritas (DNV)	Yes
• Lloyds Register of Shipping (LRS)	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes
• Polski Rejestr Statkow (PRS)	No
Use in hazardous areas	
• ATEX Zone 2	Yes
• ATEX Zone 22	Yes
• IECEx Zone 2	Yes
• IECEx Zone 22	Yes
• cULus Class I Zone 1	No
• cULus Class I Zone 2, Division 2	Yes
• FM Class I Division 2	Yes
Ambient conditions	
Ambient temperature during operation	

<ul style="list-style-type: none"> • Operation (vertical installation) <ul style="list-style-type: none"> — For vertical installation, min. — For vertical installation, max. • Operation (max. tilt angle) <ul style="list-style-type: none"> — At maximum tilt angle, min. — At maximum tilt angle, min. • Operation (vertical installation, portrait format) <ul style="list-style-type: none"> — For vertical installation, min. — For vertical installation, max. • Operation (max. tilt angle, portrait format) <ul style="list-style-type: none"> — At maximum tilt angle, min. — At maximum tilt angle, min. 	0 °C 50 °C; (55 °C, see entry ID:64847814) 0 °C 40 °C 0 °C 40 °C 0 °C 35 °C
Ambient temperature during storage/transportation	
<ul style="list-style-type: none"> • min. • max. 	-20 °C 60 °C
Relative humidity	
<ul style="list-style-type: none"> • Operation, max. 	90 %; no condensation
Operating systems	
proprietary	No
pre-installed operating system	
<ul style="list-style-type: none"> • Windows CE 	Yes
Configuration	
Message indicator	Yes
Alarm logging system (incl. buffer and acknowledgment)	Yes
Process value display (output)	Yes
Process value default (input) possible	Yes
Recipe management	Yes
Configuration software	
<ul style="list-style-type: none"> • STEP 7 Basic (TIA Portal) • STEP 7 Professional (TIA Portal) • WinCC flexible Compact • WinCC flexible Standard • WinCC flexible Advanced • WinCC Basic (TIA Portal) • WinCC Comfort (TIA Portal) • WinCC Advanced (TIA Portal) • WinCC Professional (TIA Portal) 	No No No No No No Yes; from V11 Yes; from V11 Yes; from V11
Languages	
Online languages	
<ul style="list-style-type: none"> • Number of online/runtime languages 	32

Project languages	
• Languages per project	32
Functionality under WinCC (TIA Portal)	
Libraries	Yes
Applications/options	
• Web browser	Yes
• Pocket Word	Yes
• Pocket Excel	Yes
• PDF Viewer	Yes
• Media Player	Yes
• SIMATIC WinCC Sm@rtServer	Yes
• SIMATIC WinCC Audit	Yes
Number of Visual Basic Scripts	Yes
Task planner	
• time-controlled	Yes
• task-controlled	Yes
Help system	
• Number of characters per info text	70
Message system	
• Number of alarm classes	32
• Bit messages	
— Number of bit messages	4 000
• Analog messages	
— Number of analog messages	200
• S7 alarm number procedure	Yes
• System messages HMI	Yes
• System messages, other (SIMATIC S7, Sinumerik, Simotion, etc.)	Yes
• Number of characters per message	80
• Number of process values per message	8
• Acknowledgment groups	Yes
• Message indicator	Yes
• Message buffer	
— Number of entries	1 024
— Circulating buffer	Yes
— retentive	Yes
— maintenance-free	Yes
Recipe management	
• Number of recipes	300
• Data records per recipe	500
• Entries per data record	1 000

• Size of internal recipe memory	2 Mbyte
• Recipe memory expandable	Yes
Variables	
• Number of variables per device	2 048
• Number of variables per screen	400
• Limit values	Yes
• Multiplexing	Yes
• Structures	Yes
• Arrays	Yes
Images	
• Number of configurable images	500
• Permanent window/default	Yes
• Global image	Yes
• Pop-up images	Yes
• Slide-in images	Yes
• Image selection by PLC	Yes
• Image number in the PLC	Yes
Image objects	
• Number of objects per image	400
• Text fields	Yes
• I/O fields	Yes
• Graphic I/O fields (graphics list)	Yes
• Symbolic I/O fields (text list)	Yes
• Date/time fields	Yes
• Switches	Yes
• Buttons	Yes
• Graphic display	Yes
• Icons	Yes
• Geometric objects	Yes
Complex image objects	
• Number of complex objects per screen	20
• Alarm view	Yes
• Trend view	Yes
• User view	Yes
• Status/control	Yes
• Sm@rtClient view	Yes
• Recipe view	Yes
• f(x) trend view	Yes
• System diagnostics view	Yes
• Media Player	Yes
• HTML browser	Yes

• PDF display	Yes
• IP camera display	Yes
• Bar graphs	Yes
• Sliders	Yes
• Pointer instruments	Yes
• Analog/digital clock	Yes
Lists	
• Number of text lists per project	500
• Number of entries per text list	500
• Number of graphics lists per project	500
• Number of entries per graphics list	500
Archiving	
• Number of archives per device	50
• Number of entries per archive	20 000
• Message archive	Yes
• Process value archive	Yes
• Archiving methods	
— Sequential archive	Yes
— Short-term archive	Yes
• Memory location	
— Memory card	Yes
— USB memory	Yes
— Ethernet	Yes
• Data storage format	
— CSV	Yes
— TXT	Yes
— RDB	Yes
Security	
• Number of user groups	50
• Number of user rights	32
• Number of users	50
• Password export/import	Yes
• SIMATIC Logon	Yes
Logging through printer	
• Alarms	Yes
• Report (shift log)	Yes
• Hardcopy	Yes
• Electronic print to file	Yes; pdf, html
Character sets	
• Keyboard fonts	
— US English	Yes

Transfer (upload/download)	
• MPI/PROFIBUS DP	Yes
• USB	Yes
• Ethernet	Yes
• using external storage medium	No
Process coupling	
• S7-1200	Yes
• S7-1500	Yes
• S7-200	Yes
• S7-300/400	Yes
• LOGO!	Yes
• WinAC	Yes
• SINUMERIK	Yes; with SINUMERIK option package
• SIMOTION	Yes
• Allen Bradley (EtherNet/IP)	Yes
• Allen Bradley (DF1)	Yes
• Mitsubishi (MC TCP/IP)	Yes
• Mitsubishi (FX)	Yes
• OMRON (FINS TCP)	No
• OMRON (LINK/Multilink)	Yes
• Modicon (Modbus TCP/IP)	Yes
• Modicon (Modbus)	Yes
• OPC UA Client	Yes
• OPC UA Server	Yes
Service tools/configuration aids	
• Backup/Restore manually	Yes
• Backup/Restore automatically	Yes
• Simulation	Yes
• Device switchover	Yes
Peripherals/Options	
Peripherals	
• Printer	Yes
• SIMATIC HMI MM memory card: Multi Media Card	Yes; Up to 128 MB
• SIMATIC HMI SD memory card: Secure Digital memory card	Yes; Up to 2 GB
• SIMATIC HMI CF memory card Compact Flash Card	No
• USB memory	Yes
• SIMATIC IPC USB Flashdrive (USB stick)	Yes; Up to 16 GB
• SIMATIC HMI USB stick	Yes; Up to 8 GB

- Network camera

Yes

Mechanics/material

Enclosure material (front)

- Plastic
- Aluminum
- Stainless steel

No

Yes

No

Dimensions

Width of the housing front

214 mm

Height of housing front

158 mm

Mounting cutout, width

197 mm

Mounting cutout, height

141 mm

Overall depth

63 mm

Weights

Weight without packaging

1.4 kg

Weight incl. packaging

1.6 kg

last modified:

07/12/2016

Product-type designation

SCALANCE X208



SCALANCE X208, MANAGED IE SWITCH,
8 X 10/100MBIT/S RJ45 PORTS,
LED DIAGNOSTICS,
ERROR SIGNAL CONTACT WITH SET BUTTON,
REDUNDANT POWER SUPPLY,
PROFINET-IO DEVICE, NETWORK MANAGEMENT,
INTEGRATED REDUNDANCY MANAGER,
INCL. ELECTRONIC MANUAL ON CD,
C-PLUG OPTIONAL

Transmission rate

Transfer rate / 1	10 Mbit/s
Transfer rate / 2	100 Mbit/s

Interfaces

Number of electrical/optical connections	
• for network components or terminal equipment / maximum	8
Number of electrical connections	
• for network components and terminal equipment	8
• for alarm contact	1
• for power supply	1
• for redundant power supply	1
Design of electrical connection	
• for network components and terminal equipment	RJ45 port
• for signaling contact	2-pole terminal block
• for power supply	4-pole terminal block
design of the removable storage / C-PLUG	Yes

Inputs/outputs

Operating voltage / of signaling contacts / at DC / rated value	24 V
Operating current / of signaling contacts / at DC / maximum	0.1 A

Supply voltage, current consumption, power loss

Type of voltage / of supply voltage	DC
Supply voltage / external	24 V
• minimum	18 V
• maximum	32 V
Product component / fusing at power supply input	Yes
Consumed current / maximum	0.185 A
Active power loss / at 24 V / for DC	3.84 W
Permitted ambient conditions	
Ambient temperature	
• during operating	-40 ... +60 °C
• during storage	-40 ... +70 °C
• during transport	-40 ... +70 °C
Relative humidity / at 25 °C / without condensation / during operating / maximum	95 %
Protection class IP	IP30
Design, dimensions and weight	
Design	compact
Width	60 mm
Height	125 mm
Depth	124 mm
Net weight	0.78 kg
Type of mounting	
• 35 mm DIN rail mounting	Yes
• wall mounting	Yes
• S7-300 rail mounting	Yes
Product properties, functions, components / general	
Cascading in the case of a redundant ring / at reconfiguration time of <~0.3~s	50
Cascading in cases of star structuring	Any (depending only on signal propagation time)
Product function	
• CLI	Yes
• web-based management	Yes
• MIB support	Yes
• TRAPs via email	Yes
• Configuration with STEP 7	Yes
• Port mirroring	Yes
• for IRT / PROFINET IO switch	No
• PROFINET IO diagnosis	Yes
• switch-managed	Yes
Protocol / is supported	

• Telnet	Yes
• HTTP	Yes
• HTTPS	Yes
• TFTP	Yes
• FTP	Yes
• BOOTP	No
• SNMP v1	Yes
• SNMP v2	Yes
• SNMP v3	Yes
• DCP	Yes
• LLDP	Yes
Identification & maintenance	
• I&M0 - device-specific information	Yes
• I&M1 - plant identification/location name	Yes
Product functions / Diagnosis	
Product function	
• Port diagnostics	Yes
• Statistics Packet Size	Yes
• Statistics packet type	Yes
• Error statistics	Yes
Product functions / DHCP	
Product function / DHCP client	Yes
Product functions / Redundancy	
Product function	
• Ring redundancy	Yes
• Redundancy manager	Yes
• Standby redundancy	No
• HSR redundancy protocol	Yes
• MRP redundancy protocol	Yes
• redundancy procedure PRP	No
• Passive listening	Yes
Protocol / is supported / PRP	Yes
Product functions / Security	
Protocol / is supported / SSH	Yes
Product functions / Time	
Product function / SICLOCK support	Yes
Protocol / is supported	
• NTP	No
• SNTP	Yes

Standards, specifications, approvals

Standard

- for EMC / from FM FM3611: Class 1, Division 2, Group A, B, C, D / T4, CL.1, Zone 2, GP. IIC, T4
- for hazardous zone EN 60079-0 : 2006, EN 60079-15: 2005, II 3 G Ex nA II T4 KEMA 07 ATEX 0145X
- for safety / of CSA and UL UL 60950-1, CSA C22.2 No. 60950-1
- for hazardous area / of CSA and UL ANSI / ISA 12.12.01, CSA C22.2 No. 213-M1987, CL. 1 / Div. 2 / GP. A, B, C, D T4, CL. 1 / Zone 2 / GP. IIC, T4
- for emitted interference EN 61000-6-4 (Class A)
- for interference immunity EN 61000-6-2

Verification of suitability

- CE mark Yes
- C-Tick Yes
- KC approval Yes
- Railway application in accordance with EN 50155 No
- Railway application in accordance with EN 50124-1 No

Marine classification association

- American Bureau of Shipping Europe Ltd. (ABS) Yes
- Bureau Veritas (BV) Yes
- Det Norske Veritas (DNV) Yes
- Germanische Lloyd (GL) Yes
- Lloyds Register of Shipping (LRS) Yes
- Nippon Kaiji Kyokai (NK) Yes
- Polski Rejestr Statkow (PRS) Yes

letzte Änderung:

May 14, 2012