5/LVR
less Steel Vertical
stage Pump

Application

- Suitable for transferring liquids of low viscosity, non-inflammable and non-explosive, not containing solid particles or fibers
- Water supply & drainage for high-rise buildings, filtration and transfer at waterworks, pressure boosting in main pipe
- Washing and cleaning systems, boiler feeding, cooling water circulation, water treatment systems, auxiliary system, support equipment
- Ultra-filtration systems, reverse-osmosis systems, distillation systems, separators, swimming pools
- Agricultural irrigation: sprinkler irrigation, drip-feed irrigation
- Food & beverage industry
- Fire-fighting system

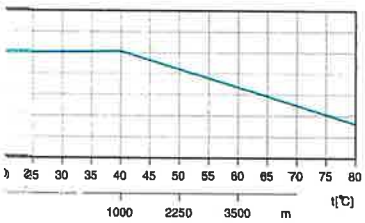
Operating Conditions

- Low viscosity, non-inflammable and non-explosive liquids not containing solid particles or fibers. The liquids must not chemically attack the pump materials. When pumping liquids with a density or viscosity is higher than that of water, a motor with a higher output power rating shall be used.
- Liquid temperature: -20℃~+120℃
- Flow ranges: 0.7-120 m³/h
- Liquid pH value: 4 - 10
- Max. ambient temperature: +40℃
- Max. operation pressure: 33 bar
- Altitude: up to 1000 m

bient Temperature

mbient temperature: + 40℃. Ambient temperature 40℃ or installation at altitude of more than 1000 meters sea level require the use of an oversize motor. Because air density and poor cooling effects, the motor output P2 will be decreased. See the picture.

h cases, it may be necessary to use a motor with a higher power rating.



mple, when the pump is installed at altitude of more 000 meters above sea level, P2 will be decreased to When the ambient temperature is 70℃, P2 will be ced to 78%.

Motor

- IE 2 motor (IE 3 motor optional)
- Totally enclosed & fan-cooled
- Protection class: IP55
- Standard voltage: 60Hz 1 x 220V/3 x 380V

Identification Codes

LVS 45- 6 -2-B-K

- K: Pipeline Port Code (Omitted for DIN flange)
- B: AISI316 Stainless Steel Material (Omitted for AISI304)
- 2: Small Impeller Stages
- 6: Impeller Stages
- 45: Rated Flow (m³/h)
- LVS,LVR Vertical Multistage Pump Series

LVS: Stainless steel wetted parts
LVR: Cast iron base & pump cover

Identifications codes of flange structure
A: Oval flange: K: Clamp connector :
G: Threaded connector

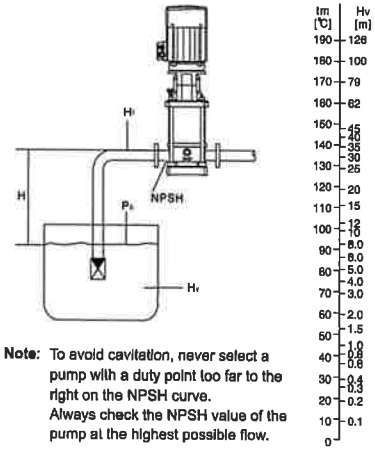
Minimum Inlet Pressure–Npsh

Calculation of the inlet pressure "H" is recommended in these situations:
The liquid temperature is high.
The flow is significantly higher than the rated flow.
Water is drawn from depths.
Water is drawn through long pipes.
Inlet conditions are poor.

To avoid cavitation, make sure that there is a minimum pressure on the suction side of the pump. The maximum suction lift "H" in meters head can be calculated as follows:

H	= P_b × 10.2-NPSH-H_f-H_v-H_s
P_b	= Barometric pressure in bar. (Barometric pressure can be set to 1 bar). In closed systems, P_b indicates the system pressure in bar.
NPSH	= Net Positive Suction Head in meters head. (To be read from the NPSH curve at the highest flow the pump will be delivering.)
H_f	= Friction loss in suction pipe in meters head. (At the highest flow the pump will be delivering.)
H_v	= Vapor pressure in meters head. (To be read from the vapor pressure scale. "H_v" depends on the liquid temperature "tm")
H_s	= Safety margin=minimum 0.5 meters head.

If the "H" calculated is positive, the pump can operate at a suction lift of maximum "H" meters head.
If the "H" calculated is negative, an inlet pressure of minimum "H" meters head is required.



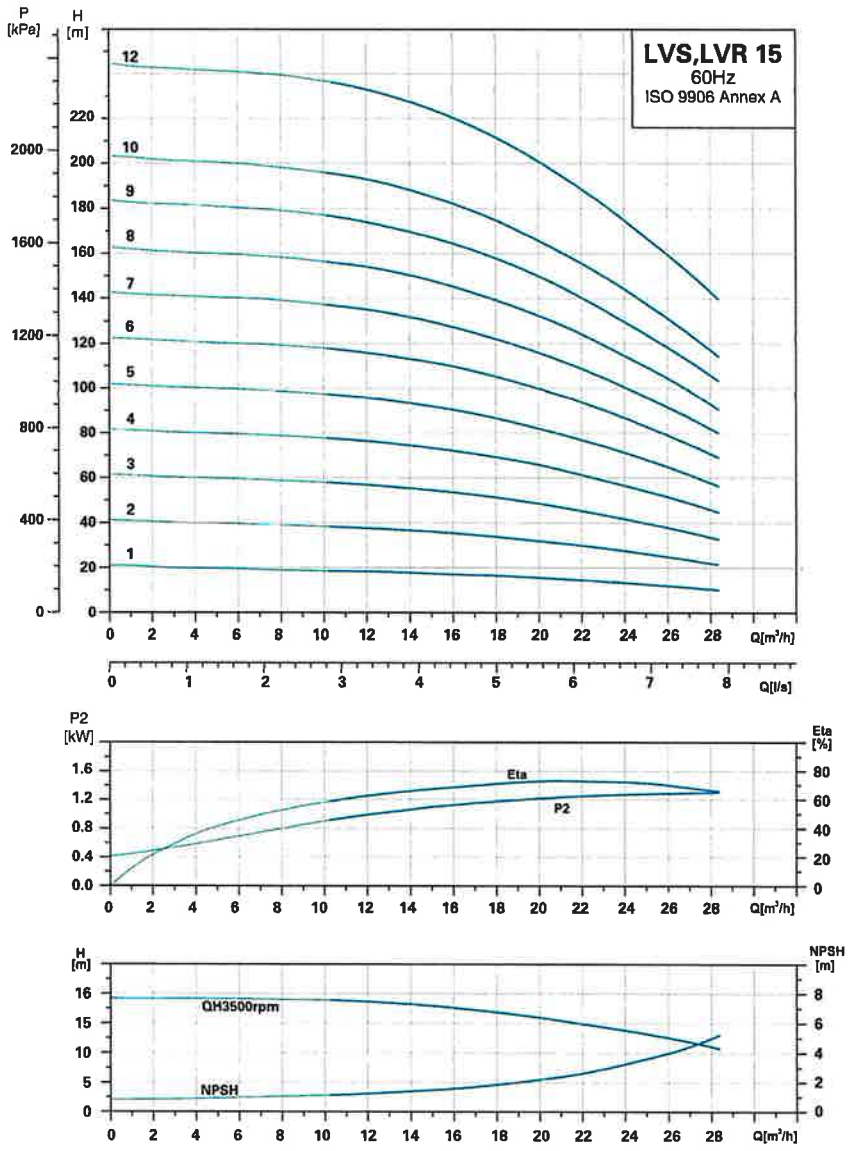
Note: To avoid cavitation, never select a pump with a duty point too far to the right on the NPSH curve. Always check the NPSH value of the pump at the highest possible flow.

Maximum Inlet Pressure

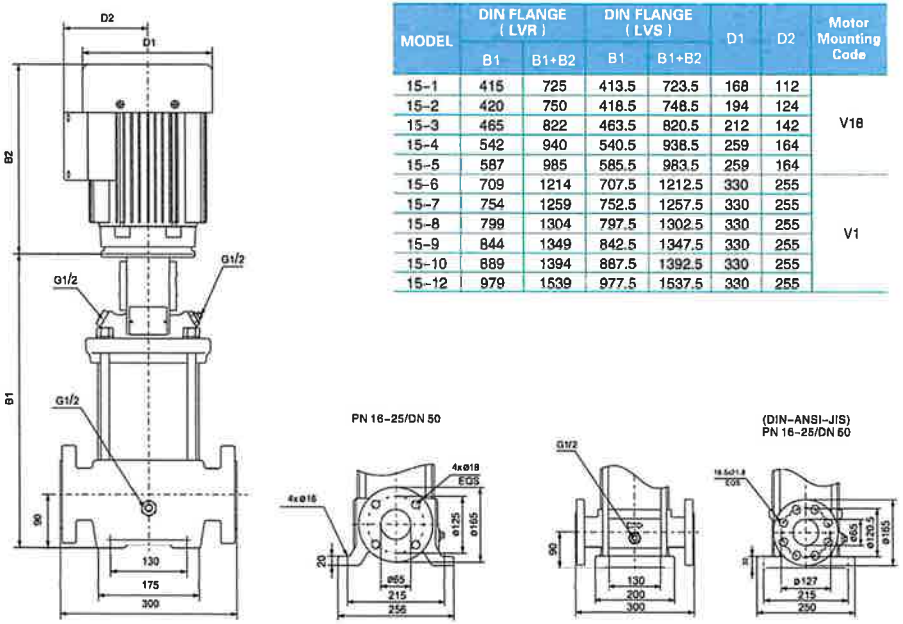
The following table shows the maximum permissible inlet pressure. However, the current inlet pressure + the pressure against a closed valve must always be lower than the Max. permissible operating pressure.
If the maximum permissible operating pressure is exceeded, the bearing in the motor may be damaged and the life of the shaft seal reduced.

Pump Model	Maximum Inlet Pressure [bar]
LVR1, LVS1	
1–2 — 1–25	10
1–26 — 1–27	15
LVR2, LVS2	
2–2 — 2–12	10
2–13 — 2–18	15
LVR3, LVS3	
3–2 — 3–15	10
3–17 — 3–25	15
LVR4, LVS4	
4–2 — 4–7	10
4–8 — 4–12	15
LVR5, LVS5	
5–2 — 5–9	10
5–10 — 5–24	15
LVR10, LVS10	
10–1 — 10–5	8
10–6 — 10–17	10
LVR15, LVS15	
15–1 — 15–2	8
15–3 — 15–12	10
LVR20, LVS20	
20–1	8
20–2 — 20–10	10
LVR32, LVS32	
32–1–1 — 32–2	4
32–3–2 — 32–6	10
32–7–2 — 32–10–2	15
LVR45, LVS45	
45–1–1 — 45–1	4
45–2–2 — 45–3	10
45–4–2 — 45–7	15
LVR64, LVS64	
64–1–1	4
64–1 — 64–2–1	10
64–4–2 — 64–5–2	15
LVR90, LVS90	
90–1–1 — 90–2–2	10
90–2–1 — 90–4–2	15
LVR120, LVS120	
120–1–1 — 120–1	10
120–2–2 — 120–3–1	15
120–3 — 120–5–2	20
LVR150, LVS150	
150–1–1	10
150–1 — 150–2	15
150–3–2 — 150–4–2	20
LVR200, LVS200	
200–1–D — 200–1	15
200–2–2D — 200–3–2C	20

draulic Performance Curves



Dimension Drawing



MODEL	DIN FLANGE (LVR)		DIN FLANGE (LVS)		D1	D2	Motor Mounting Code
	B1	B1+B2	B1	B1+B2			
15-1	415	725	413.5	723.5	168	112	V18
15-2	420	750	418.5	748.5	194	124	
15-3	465	822	463.5	820.5	212	142	
15-4	542	940	540.5	938.5	259	164	
15-5	587	985	585.5	983.5	259	164	
15-6	709	1214	707.5	1212.5	330	255	V1
15-7	754	1259	752.5	1257.5	330	255	
15-8	799	1304	797.5	1302.5	330	255	
15-9	844	1349	842.5	1347.5	330	255	
15-10	889	1394	887.5	1392.5	330	255	
15-12	979	1539	977.5	1537.5	330	255	

MODEL	POWER[kW]	Q[m³/h]	12	16	20	24	28
15-1	1.5	H(m)	18	17	15	12	9
15-2	3		38	35	32	27	22
15-3	4		57	53	48	42	33
15-4	5.5		76	72	65	56	46
15-5	7.5		96	90	81	71	57
15-6	11		116	110	98	87	70
15-7	11		135	127	114	101	82
15-8	11		154	145	130	114	93
15-9	15		174	164	148	130	105
15-10	15		193	182	164	144	117
15-12	18.5		233	220	198	174	142

TOSHIBA
TOSHIBA INTERNATIONAL CORPORATION

ADJUSTABLE SPEED DRIVES

S15 (HEAVY DUTY)

EXTREME PERFORMANCE MICRO-DRIVE

Toshiba's heavy duty S15 adjustable speed drive is a compact and high performance drive designed for controlling a wide range of variable and constant torque applications for multiple industries. This micro-drive is capable of working with permanent magnet (PM) motors, which allows a much greater flexibility in selecting a motor for an application. In addition, expanded PID control allows a greater level of precise control and operation of difficult level control applications. No other micro-drive delivers such reliable performance and extensive capabilities at such a competitive cost.

Compact Design	Separates the S15 from the competition, as one of the smallest drives offered in the industry. The compact design allows the unit to be installed in areas with limited space, allowing users more real estate when running applications.
Easy Installation and Programming	Allows the user to install and program the S15 drive with minimal downtime. Din Rail kits allow users the option of easily mounting the drive onto a pre-existing DIN inside of a cabinet or on a panel. The addition of the +SU terminal to the S15 allows for the end user to power the drive control section using a simple 24 VDC power supply. This allows startup technicians to program the drive without having to have 230 V, 460 V, or 600 V three-phase power available.
Tough Environment	Conditions are no problem for the S15. Designed to withstand extreme temperatures, the S15 can operate in temperatures of up to 122°F (50°C) without derating and can also be configured for use in temperatures above 122°F (50°C) with a de-rate.
Superior Control	Allows the user ultimate application flexibility. Toshiba's advanced vector-control algorithm offers speed regulation of 0.1% sensor-less. Energy saving, user selectable V/Hz patterns make the S15 a smart choice for any application.
Heavy Duty Performance	Separates the S15 from the competition. Offering one of the toughest micro-drive overload ratings in the industry, the S15 is rated for 110% of its full-load amp rating for continuous operation and 150% for up to one minute.

TOSHIBA

S15 LV ASD

S15 LV ASD

c UL us

ADVANCED FEATURES FOR MAXIMUM DRIVE PERFORMANCE

Built-in LED Interface allows for quick, user-friendly programming and easy modification of the S15's expanded parameter set. Additional remote-mount keypads are also available. The parameter write and simple fault tracking functionality of these optional keypads make setup and troubleshooting quick and simple.

My Function, Toshiba's Proprietary Programming Feature, allows the user to utilize logic-type programming without the expense of a micro PLC. The user is able to read all analog and digital inputs and outputs as well as monitor and compare data. When programmed in a user-defined logic sequence, the use of this data will allow for a higher level of process control not normally seen in an adjustable speed drive. These functions, along with timers, counters, and comparators, allow the S15 to not only meet but exceed performance expectations.

S15's Easy Key is a configurable key that simplifies startup and operation. The easy key quickly accesses commonly changed parameters. In addition, the easy key can also function as a simple local/remote key for easy operation switching.

Improved PID Control Algorithm provides regulation of critical processes. High and low speed limits, deviation limits, online switching, and a built-in sleep function are included to enhance the flexibility and reliability of PID process control. Improved control is possible with the S15's enhanced PID algorithm, making it easier than ever to dial in your process control application.

Toshiba's Proprietary Windows®-Based ASD Pro Software is available at no additional cost. This easy-to-use software is designed to provide a full range of programming and monitoring tools for all Toshiba low voltage drives, including the S15. ASD Pro offers parameter reading, trending, and logging features that allow the user to save and transfer parameters and export data and graphs to an electronic file. Parameter groups and trending data can be easily converted into spreadsheets or graphs for field and validation reports.

COMMUNICATION OPTIONS

The S15 drive offers a wide array of easily installed option boards. These boards allow the user to communicate with a wide variety of systems. Options include:

- CANopen
- DeviceNet
- EtherCAT
- Ethernet/IP
- Modbus TCP
- Profibus DP
- PROFINET

ADDITIONAL OPTIONS

The S15 can be supplied with additional options to expand control, allow greater flexibility, and provide better protection for a user's application. Options include:

- Parameter Writer
- IP54 Packaged Unit (Consult Factory)
- Input Reactor
- DV/dt Long Lead Filter
- NetPac™ Wireless Connection
- Remote Mountable Keypads
- DIN Rail Mounting

OTHER SPECIAL FEATURES

- Safe Torque Off (STO) Compliant
- Ten Year Long-Life Design
- Rotary Encoder
- Reduced Energy Consumption
- UL Listed & Labeled

INDUSTRIES SERVED

- Food & Beverage Processing
- HVAC
- Mining & Minerals
- Oil & Gas
- Water & Wastewater
- Agribusiness

APPLICATIONS

- Blowers & Compressors
- Machine Tools
- Conveyors
- Irrigation
- Mixers
- Pumps
- Fans
- Lifts

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MODEL RANGE	1/4 HP to 3 HP	1/2 HP to 20 HP	1/2 HP to 20 HP	2 HP to 20 HP
	Single-Phase 230 VAC	Three-Phase 230 VAC	Three-Phase 460 VAC	Three-Phase 600 VAC
POWER REQUIREMENTS				
	Voltage: ±10%; Frequency: ±5%			
	0.1 to 500 Hz			
CONTROL SPECIFICATIONS				
	Sinusoidal Pulse Width Modulation (PWM); Flux-Field Current Vector Control; Set Point Control (PID)			
	Main Circuit Voltage Feedback Control: Automatic, Fixed, & Off			
	V/f Constant, Variable Torque, Automatic Torque Boost, Vector Control, PM Motor Control, 5-point V/f Custom Setting, & Auto-Tuning			
	Adjustable 2 to 16 kHz (For Drive Specific Information Consult Factory)			
	Rotary Encoder Integrated into EOI, 0 to 10 VDC, ±10VDC, 4 to 20 mA, Digital Input, Binary Input, & Motorized Potentiometer Input			
	Analog Input: ±0.5% of Maximum Output Frequency; Discrete/Communications Input: ±0.01% of Maximum Output Frequency			
	Open Loop: Up to 0.3%, 60:1 Speed Range			
	Six (3 Powertrain, Current Limit, Over-Current, Output Short Circuit, Over-Voltage, Over-Voltage Limit, Under-Voltage, Ground Fault Detection, Input Phase Failure, Output Phase Failure, Overload Protection by Electronic Thermal Function, Armature Over-Current at Start/Acc, Load Side Over-Current at Start/Acc, Over-Torque, Under-current, Overheating, Cumulative Operation Time, Life Alarm, Emergency Stop, & Various Pre-alarms			
	User-Set Number of Retries for Automatic System Restart After Trip			
	Able to Smoothly Catch Freewheeling Motor (Bidirectional)			
	110% Continuous; 150% for One Minute			
CONTROL INTERFACE				
	Six Discrete Input Terminals Programmable to 118 Functions (May Be Increased Using Optional Hardware)			
	Three Discrete Output Terminals Programmable to 150 Functions; One Form-A Contact, One Form-C Contact, & One Open Collector Output			
	Three Programmable: One 4 to 20 mA Input, One 0 to 10 VDC Input, & One ±10 VDC Input			
	One Programmable: 4 to 20 mA or 0 to 10 VDC			
	RS485 Port (USB or MODBUS RTU Protocol)			
ELECTRONIC OPERATOR INTERFACE (EOI)				
	Integral Four-Digit & Seven-Segment LED Keypad for Programming, Monitoring, & Diagnostics			
	DC Bus Charge Indicator (Red)			
	Run, Prg, Mon, Status, %, Hz, Stop, Mode, & Easy Key, Rotary Encoder for Parameter Navigation, Settings, & Control			
	Frequency Command Screen, Multiple Parameters Displayed: Output Frequency, Forward/Reverse Run, Output Current, Input Voltage (DC Detection), Output Voltage, Torque, Inverter Load Factor, Motor Load Factor, Braking Resistor Load Factor, Input Power, Output Power, Input Terminal Status, Output Terminal Status, Overload/Regional Setting, PID Feedback Value, Stator Frequency, Parts Replacement Alarm, Cumulative Operation Time, & Past Trips			
CONSTRUCTION				
	RAL 7016 (Anthracite Gray), IP20, Wall-Mount, Front-Access Only			
	Bottom Access for Input/Motor Cables			
	Self-Cooling/Forced Air-Cooled			
	UL Listed to UL & Canada, CSA, & CE			
AMBIENT CONDITIONS				
	-10° to 40°C (Note: See Manual for Details; Ambient Temperatures Above +50°C May Require a De-Rate)			
	3300 ft. Above Sea Level (Up to 10,000 ft. with De-Rate)			
	95% Maximum (Non-Condensing)			
	Indoors, No Direct Sunlight; Protects from Corrosive Gas/Explosive Gas/Flammable Gas/Oil Mist/Dust; Vibration of Less Than 5.9 m/s² (10 to 55 Hz)			

TOSHIBA

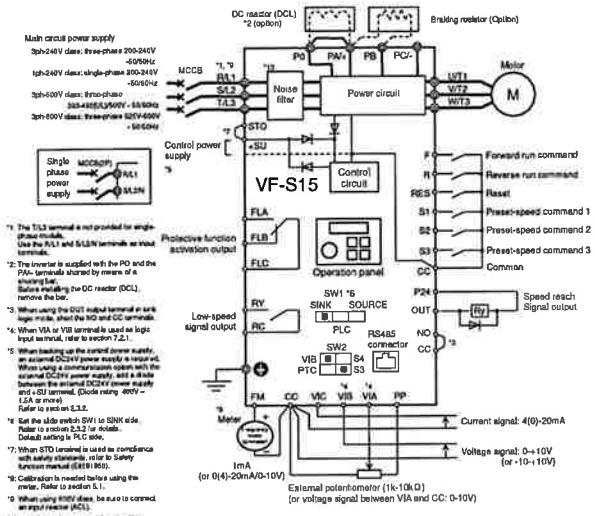
TOSHIBA MOTORS & DRIVES DIVISION
Adjustable Speed Drives • Motors • Motor Controls

www.toshiba.com/tic

2.2.1 Standard connection diagram 1

This diagram shows a standard wiring of the main circuit.

Standard connection diagram – SINK (Negative) (common: CC)



*1: The T/L3 terminal is not provided for single-phase models. Use the R/L1 and S/L2/N terminals as input terminals.

*2: The inverter is supplied with the PO and the PA/+ terminals shorted by means of a shorting bar. Before installing the DC reactor (DCL), remove the bar.

*3: When using the OUT output terminal in sink logic mode, short the NO and CC terminals.

*4: When VIA or VIB terminal is used as logic input terminal, refer to section 7.2.1.

*5: When backing up the control power supply, an external DC24V power supply is required. When using a communication option with the external DC24V power supply, add a diode between the external DC24V power supply and +SU terminal. (Diode rating: 400V – 1.5A or more) Refer to section 2.3.2.

*6: Set the slide switch SW1 to SINK side. Refer to section 2.3.2 for details. Default setting is PLC side.

*7: When STO terminal is used as compliance with safety standards, refer to Safety function manual (E6581950).

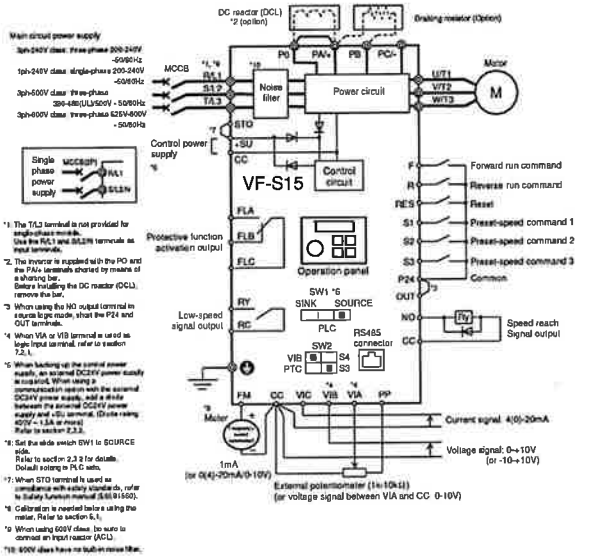
*8: Calibration is needed before using the meter. Refer to section 5.1.

*9: When using 600V class, be sure to connect an input reactor (ACL).

*10: 600V class have no built-in noise filter.

2.2.2 Standard connection diagram 2

Standard connection diagram – SOURCE (Positive) (common: P24)



*1: The T/L3 terminal is not provided for single-phase models. Use the R/L1 and S/L2/N terminals as input terminals.

*2: The inverter is supplied with the PO and the PA/+ terminals shorted by means of a shorting bar. Before installing the DC reactor (DCL), remove the bar.

*3: When using the NO output terminal in source logic mode, short the P24 and OUT terminals.

*4: When VIA or VIB terminal is used as logic input terminal, refer to section 7.2.1.

*5: When backing up the control power supply, an external DC24V power supply is required. When using a communication option with the external DC24V power supply, add a diode between the external DC24V power supply and +SU terminal. (Diode rating: 400V – 1.5A or more) Refer to section 2.3.2.

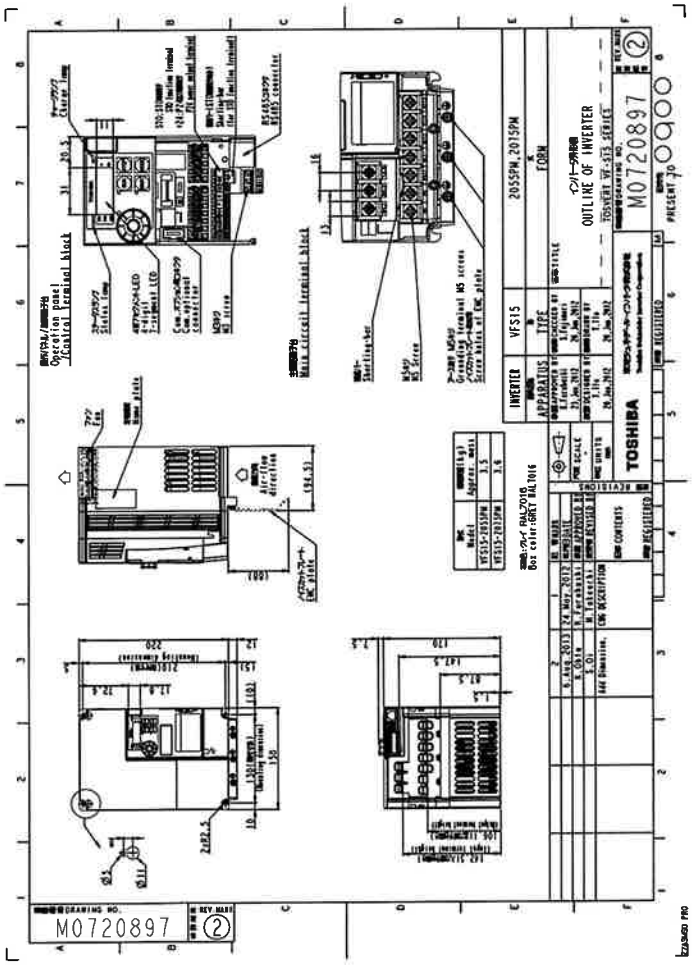
*6: Set the slide switch SW1 to SOURCE side. Refer to section 2.3.2 for details. Default setting is PLC side.

*7: When STO terminal is used as compliance with safety standards, refer to Safety function manual (E6581950).

*8: Calibration is needed before using the meter. Refer to section 5.1.

*9: When using 600V class, be sure to connect an input reactor (ACL).

*10: 600V class have no built-in noise filter.



Pressure transmitter
For general industrial applications
Model A-10

for further approvals
see page 9

Applications

- Machine building
- Shipbuilding
- Measurement and control technology
- Hydraulics and pneumatics
- Pumps and compressors

Special features

- Measuring ranges from 0 ... 20 inWC to 0 ... 15,000 psi (0 ... 0.05 to 0 ... 1,000 bar)
- Non-linearity 0.25 % or 0.5 %
- Output 4 ... 20 mA, DC 0 ... 10 V, DC 0 ... 5 V and others
- Electrical connection: Angular connector form A and C, circular connector M12 x 1, cable outlet 6 ft
- Process connection G ¼ A DIN 3852-E, ¼ NPT and others

Pressure transmitter, model A-10

Description

The model A-10 pressure transmitter for general industrial applications is not only notable for its compact design, but it also offers excellent quality at an extremely competitive price.

The user can choose between a non-linearity of 0.25 % and 0.5 %. A free test protocol provides information on the measuring points recorded during manufacture.

The model A-10 is set up for worldwide use through the international cULus and EAC certification. The various pressure units and process connections required for particular operating conditions are available at short notice.

Data sheets showing similar products:
High-quality pressure transmitter for general industrial applications, model S-20, see data sheet PE 81.61

Measuring ranges

Gauge pressure								
bar	Measuring range	0 ... 0.05	0 ... 0.1	0 ... 0.16	0 ... 0.25	0 ... 0.4	0 ... 0.6	0 ... 1
	Overload safety	0.2	0.2	1	1	1	3	3
	Measuring range	0 ... 1.6	0 ... 2.5	0 ... 4	0 ... 6	0 ... 10 [1]	0 ... 16 [1]	0 ... 25 [1]
	Overload safety	3.2	5	8	12	20	32	50
	Measuring range	0 ... 40	0 ... 60	0 ... 100	0 ... 160	0 ... 250	0 ... 400	0 ... 600
	Overload safety	80	120	200	320	500	800	1,200
	Measuring range	0 ... 1,000						
	Overload safety	1,500						
inWC	Measuring range	0 ... 20	0 ... 40	0 ... 60	0 ... 80	0 ... 100	0 ... 120	0 ... 150
	Overload safety	84	84	400	400	400	400	400
	Measuring range	0 ... 200	0 ... 250	0 ... 400				
	Overload safety	400	1,200	1,200				
psi	Measuring range	0 ... 1	0 ... 5	0 ... 15	0 ... 25	0 ... 30	0 ... 60	0 ... 100
	Overload safety	3	14.5	45	60	60	100	200
	Measuring range	0 ... 160 [1]	0 ... 200 [1]	0 ... 300 [1]	0 ... 500	0 ... 1,000	0 ... 1,500	0 ... 2,000
	Overload safety	290	400	600	1,000	1,740	2,900	4,000
	Measuring range	0 ... 3,000	0 ... 5,000	0 ... 15,000				
	Overload safety	6,000	10,000	21,756				

[1] If the medium water is measured, a higher overload safety is recommended.

Absolute pressure								
bar	Measuring range	0 ... 0.1	0 ... 0.16	0 ... 0.25	0 ... 0.4	0 ... 0.6	0 ... 1	0 ... 1.6
	Overload safety	1	1	1	1	3	3	3.2
	Measuring range	0 ... 2.5	0 ... 4	0 ... 6	0 ... 10	0 ... 16	0 ... 25	
	Overload safety	5	8	12	20	32	50	
inWC	Measuring range	0 ... 40	0 ... 60	0 ... 80	0 ... 100	0 ... 120	0 ... 150	0 ... 200
	Overload safety	400	400	400	400	400	400	400
	Measuring range	0 ... 250	0 ... 400					
	Overload safety	1,200	1,200					
psi	Measuring range	0 ... 5	0 ... 15	0 ... 25	0 ... 30	0 ... 60	0 ... 100	0 ... 150
	Overload safety	14.5	45	60	80	100	200	290
	Measuring range	0 ... 200	0 ... 300					
	Overload safety	400	600					

Vacuum and +/- measuring range						
bar	Measuring range	-0.025 ... +0.025	-0.05 ... 0	-0.05 ... +0.05	-0.05 ... +0.15	-0.05 ... +0.3
	Overload safety	±0.2	±0.2	±0.2	1	1
	Measuring range	-0.05 ... +0.25	-0.1 ... 0	-0.1 ... +0.1	-0.15 ... +0.15	-0.16 ... 0
	Overload safety	1	±0.2	1	1	1
	Measuring range	-0.2 ... +0.2	-0.25 ... 0	-0.25 ... +0.25	-0.3 ... +0.5	-0.4 ... 0
	Overload safety	1	1	1	3	1
	Measuring range	-0.5 ... +0.5	-0.5 ... 0	-1 ... 0	-1 ... +0.6	-1 ... +1.5
	Overload safety	3	3	3	3.2	5
	Measuring range	-1 ... +3	-1 ... +5	-1 ... +9 [1]	-1 ... +15 [1]	-1 ... +24 [1]
	Overload safety	5	12	20	32	50
inWC	Measuring range	-10 ... +10	-20 ... 0	-20 ... +20	-40 ... 0	-40 ... +40
	Overload safety	±80	±80	±80	±80	±80
	Measuring range	-50 ... +50	-60 ... 0	-75 ... +75	-80 ... 0	-100 ... 0
	Overload safety	400	400	400	400	400
	Measuring range	-100 ... +100	-120 ... 0	-125 ... +125	-150 ... 0	-200 ... +200
	Overload safety	400	400	1,200	400	1,200
	Measuring range	-250 ... 0				
	Overload safety	1,200				
psi	Measuring range	-1 ... 0	-30 inHg ... 0	-30 inHg ... +16	-30 inHg ... +30	-30 inHg ... +60
	Overload safety	±3	45	60	60	150
	Measuring range	-30 inHg ... +100	-30 inHg ... +150 [1]	-30 inHg ... +200 [1]	-30 inHg ... +300 [1]	
	Overload safety	250	350	450	600	

[1] If the medium water is measured, a higher overload safety is recommended.

The given measuring ranges are also available in mbar, kg/cm², MPa and kPa.
Other measuring ranges available on request.
3-fold overload safety available on request.

Vacuum tightness
Yes (for restrictions see overload safety)

Output signals

Output signals	
Current (2-wire)	4 ... 20 mA
Voltage (3-wire)	DC 0 ... 10 V
	DC 0 ... 5 V
	DC 1 ... 5 V
	DC 0.5 ... 4.5 V
Ratiometric (3-wire)	DC 0.5 ... 4.5 V

Other output signals on request

Load in Ω
Current (2-wire): ≤ (power supply - 8 V) / 0.02 A
Voltage (3-wire): > maximum output signal / 1 mA
Ratiometric (3-wire): > 10k

Voltage supply

Output signal	Power supply	
	Standard	Option
4 ... 20 mA	DC 8 ... 30 V	DC 8 ... 35 V [1] [3]
DC 0 ... 10 V	DC 14 ... 30 V	DC 14 ... 35 V
DC 0 ... 5 V [2]	DC 8 ... 30 V	DC 8 ... 35 V
DC 1 ... 5 V	DC 8 ... 30 V	DC 8 ... 35 V
DC 0.5 ... 4.5 V	DC 8 ... 30 V	DC 8 ... 35 V
DC 0.5 ... 4.5 V ratiometric	DC 5 V ± 10 %	-

[1] Not possible with non-linearity 0.25 % BFSL.
[2] Only possible for temperature up to 85 °C (176 °F).
[3] Not possible with measuring ranges ≤ 0.1 bar (or equivalent).

The power supply for the pressure transmitter must be made via an energy-limited electrical circuit in accordance with section 9.3 of UL/EN/IEC 61010-1, or an LPS per UL/EN/IEC 60950-1, or class 2 in accordance with UL1310/UL1585 (NEC or CEC). The power supply must be suitable for operation above 2,000 m should the pressure transmitter be used at this altitude.

Total current consumption
Current (2-wire): Signal current, max. 25 mA
Voltage (3-wire): 8 mA
Ratiometric (3-wire): 8 mA

Accuracy specifications

Optionally the model A-10 is available with an improved non-linearity. Depending on the selected non-linearity the following values result:

	Standard	Option
Non-linearity per BFSL (IEC 61298-2)		
■ Measuring range ≤ 0,1 bar	≤ ±0,5 % of span	-
■ Measuring range > 0,1 bar	≤ ±0,5 % of span	≤ ±0,25 % of span [1]
Measuring deviation of the zero signal [2] [3]		
■ 4 ... 20 mA	≤ ±0,3 % of span	≤ ±0,2 % of span
■ DC 0 ... 10 V	≤ ±0,8 % of span	≤ ±0,4 % of span
■ DC 0 ... 5 V [4]	≤ ±0,8 % of span	-
■ DC 1 ... 5 V	≤ ±0,3 % of span	≤ ±0,2 % of span
■ DC 0,5 ... 4,5 V	≤ ±0,3 % of span	≤ ±0,2 % of span
■ DC 0,5 ... 4,5 V ratiometric	≤ ±0,8 % of span	≤ ±0,2 % of span
Accuracy at room temperature [5]		
■ Measuring range ≥ 0,6 bar	≤ ±1 % of span	≤ ±0,5 % of span
■ Measuring range ≥ 0,4 bar	≤ ±1,2 % of span	≤ ±0,7 % of span
■ Measuring range ≥ 0,25 bar	≤ ±1,3 % of span	≤ ±0,8 % of span
■ Measuring range ≥ 0,16 bar	≤ ±1,5 % of span	≤ ±1 % of span
■ Measuring range ≥ 0,1 bar	≤ ±1,8 % of span	-
■ Measuring range ≥ 0,05 bar	≤ ±2,4 % of span	-

In case of occasional faults due to electrostatic discharges, a temporary measuring error of up to ±2,5 % can occur.

1) Not possible with output signal DC 0 ... 5 V
2) Measuring ranges ≤ 0,1 bar (or equivalent): only possible with ≤ ±0,5 % of span.
3) Outside reference conditions the temperature hysteresis has to be added for measuring ranges < 0,6 bar
4) Not possible with measuring range ≤ 0,1 bar (or equivalent).
5) Including non-linearity, hysteresis, zero offset and end value deviation (corresponds to measured error per IEC 61298-2), calibrated in vertical mounting position with process connection facing downwards

Non-repeatability (per IEC 61298-2)
Measuring range ≤ 0,1 bar: ≤ 0,2 % of span
Measuring range > 0,1 bar: ≤ 0,1 % of span

Signal noise
≤ ±0,3 % of span
(≤ ±0,2 % of span on request)

Temperature error at 0 ... 80 °C (32 ... 176 °F)
Typical: ≤ ±1 % of span
Maximum: ≤ ±2,5 % of span
Maximum ≤ ±1,5 % of span on request

Long-term drift (per IEC 61298-2)
Measuring ranges ≤ 0,1 bar: ≤ ±0,5 % of span [1]
Measuring ranges ≤ 0,4 bar: ≤ ±0,2 % of span
Measuring ranges > 0,4 bar: ≤ ±0,1 % of span

1) Outside reference conditions the temperature hysteresis has to be added for measuring ranges ≤ 0,1 bar.

Temperature hysteresis -30 ... +100 °C (-22 ... +212 °F) for measuring ranges < 0,6 bar

Measuring range	Gauge pressure	Absolute pressure
≥ 0,40 bar	≤ ±0,2 % of span	≤ ±0,2 % of span
≥ 0,25 bar	≤ ±0,3 % of span	≤ ±0,3 % of span
≥ 0,16 bar	≤ ±0,5 % of span	≤ ±0,5 % of span
≥ 0,10 bar	≤ ±0,7 % of span	≤ ±0,8 % of span
≥ 0,05 bar	≤ ±1,4 % of span	-

Time response

Measuring range	Settling time	Switch-on time
≥ 0,4 bar	< 4 ms [1]	< 15 ms
≥ 0,05 bar	< 1 min	< 1 min

1) t 90 on request

Operating conditions

Ingress protection (per IEC 60529)
see table "Specifications"

Vibration resistance
10 g (IEC 60068-2-6, under resonance) [1]
20 g available on request [2] [3]

1) With GL approval and measuring range 0 ... 0,6 bar only feasible with an accuracy of 1 %
2) With GL approval only feasible for measuring range ≥ 0 ... 1 bar
3) From -30 °C (-22 °F)

Shock resistance
500 g (IEC 60068-2-27, mechanical)
100 g at -40 °C (-40 °F)

Service life
Measuring range > 0,1 bar: 100 million load cycles
Measuring range ≤ 0,1 bar: 10 million load cycles

Permissible temperature ranges

	Standard	Option	
		Voltage signal	Current signal [1] [2]
Ambient	0 ... +80 °C (32 ... 176 °F)	-30 ... +100 °C (-22 ... +212 °F)	-40 ... +100 °C [3] (-40 ... +212 °F)
Medium	0 ... +80 °C (32 ... 176 °F)	-30 ... +100 °C (-22 ... +212 °F)	-40 ... +100 °C [3] (-40 ... +212 °F)
Storage	-40 ... +70 °C (-40 ... +158 °F)	-40 ... +70 °C (-40 ... +158 °F)	-40 ... +70 °C (-40 ... +158 °F)

Restrictions and deviating of the ambient temperature depend on the medium temperature. Depending on the choice of sealing on the process connection, there may be limitations in the permissible temperature range (for limitations see "Process connections, sealings").

1) With cULus approval the minimum ambient and medium temperature is -30 °C (-22 °F)
2) Only with power supply DC 8 ... 30 V
3) Only with forward installation into that is protected from condensation

Reference conditions (per IEC 61298-1)

Temperature
15 ... 25 °C (59 ... 77 °F)

Atmospheric pressure
860 ... 1,060 mbar (12,5 ... 15,4 psi)

Humidity
45 ... 75 % relative

Power supply
DC 24 V

Mounting position
as required

Process connections

Standard	Thread size
EN 837	G ⅛ B [1]
	G ¼ B
	G ¼ female
	G ½ female, with flange connection [2]
	G ¾ B
	G 1 B
DIN 3852-E [2] [4]	G ¼ A
	G ½ A
	M14 x 1,5
ANSI/ASME B1.20.1	⅛ NPT [3]
	¼ NPT
	¼ NPT female
	⅜ NPT
DIN 16288	M20 x 1,5
ISO 7	R ⅛
	R ¼
	R ⅜
KS	PT ⅛
	PT ¼
	PT ⅜
SAE J514 E [3] [4]	7/16-20 UNF O-ring BOSS

1) Maximum measuring range 400 bar
2) Maximum measuring range 100 bar
3) Maximum overload safety 600 bar
4) Maximum permissible temperature -20 ... +100 °C (-4 ... +212 °F)

Pressure port

	Pressure port	Possible process connections
Standard	3,5 mm	All
Option 1	0,8 mm	All male threads
Option 2	0,3 mm	All male threads
Option 3	6,0 mm	G ¼ A and ¼ NPT

Optionally a T-restrictor is possible for the following process connections:
- G ¼ B
- G ⅜ B
- G ½ B
- M20 x 1,5

Sealings
For the process connections of the following standards the listed sealing materials are available.

Standard	Standard	Option
EN 837	Copper	Stainless steel
DIN 3852-E	NBR	FKM
DIN 16288	Copper	Stainless steel
SAE J514 E	NBR	FKM

The sealings listed under "Standard" are included in the delivery.

Electrical connections

Designation	Ingress protection [1]	Wire cross section	Cable diameter	Cable material
Angular connector DIN 175301-803 A				
■ with mating connector	IP65	up to a max. 1,5 mm²	5 ... 8 mm	-
■ with moulded cable	IP65	3 x 0,75 mm²	6 mm	PUR
Angular connector DIN 175301-803 C				
■ with mating connector	IP65	up to a max. 0,75 mm²	4,5 ... 6 mm	-
■ with moulded cable	IP65	4 x 0,5 mm²	5,2 mm	PUR
Circular connector M12 x 1 (4-pin)				
■ without mating connector	IP67	-	-	-
■ straight with moulded cable	IP67	3 x 0,34 mm²	4,3 mm	PUR
■ angled with moulded cable	IP67	3 x 0,34 mm²	4,3 mm	PUR
Cable outlet				
■ unshielded [2]	IP67	3 x 0,34 mm²	4 mm	PUR
■ OEM version, unshielded [3]	IP67	3 x 0,14 mm²	2,65 mm	TPU

1) Not feasible with GL approval
2) up to a max. 80 °C (194 °F)
3) The stated ingress protection (per IEC 60529) only applies when plugged in using mating connectors that have the appropriate ingress protection.

Mating connectors (with and without cable) are also separately available as accessories.
Cable lengths of 6 ft or 15 ft (2 m or 5 m) are available.

Short-circuit resistance
S+ vs. 0V

Reverse polarity protection
U_B vs. 0V
no reverse polarity protection with ratiometric output signal

Insulation voltage
DC 500 V

Connection diagrams
All connectors with moulded cable have the same colour assignment as the unshielded cable outlet.

Angular connector DIN 175301-803 A

	2-wire	3-wire
U_B	1	1
0V	2	2
S+	-	3

Angular connector DIN 175301-803 C

	2-wire	3-wire
U_B	1	1
0V	2	2
S+	-	3

Circular connector M12 x 1 (4-pin)

	2-wire	3-wire
U_B	1	1
0V	3	3
S+	-	4

Cable outlet, unshielded

	2-wire	3-wire
U_B	brown	brown
0V	blue	blue
S+	-	black

Cable outlet, OEM version, unshielded

	2-wire	3-wire
U_B	brown	brown
0V	blue	blue
S+	-	black

Legend
U_B Positive power supply terminal
0V Negative power supply terminal
S_+ Analogue output

Materials

Wetted parts
< 10 bar (150 psi): Stainless steel 316L
≥ 10 bar (150 psi): Stainless steel 316L and PH steel
≤ 0 ... 25 bar abs. (400 psia): Stainless steel 316L

Non-wetted parts
- Stainless steel 316L
- HNBR
- PA

For sealing materials see "Process connections"
For cable materials see "Electrical connections"

Pressure transmission medium

< 0 ... 10 bar (150 psi):	Synthetic oil
≤ 0 ... 25 bar abs. (400 psia):	Synthetic oil
≥ 0 ... 10 bar (150 psi):	Dry measuring cell

Approvals

Logo	Description	Country
CE	EU declaration of conformity ■ EMC directive ■ Pressure equipment directive ■ RoHS directive	European Community
cULus	UL [1] Safety (e.g. electr. safety, overpressure, ...)	USA and Canada
EAC	EAC ■ Electromagnetic compatibility	Eurasian Economic Community
	GOST Metrology, measurement technology	Russia
	Kazinmetr Metrology, measurement technology	Kazakhstan
	MTSCHS Permission for commissioning	Kazakhstan
	BelGIM Metrology, measurement technology	Belarus
	UkrSEPRO Metrology, measurement technology	Ukraine
	Uzstandard Metrology, measurement technology	Uzbekistan
GL	DNV GL [1] Ships, shipbuilding (e.g. offshore)	Germany
	CRN Safety (e.g. electr. safety, overpressure, ...)	Canada

1) not for measuring ranges ≤ 0.6 bar and not for medium temperature -40 ... +100 °C (-40 ... +212 °F)

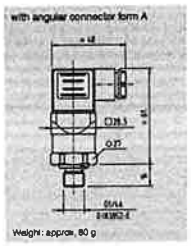
Manufacturer's information and certifications

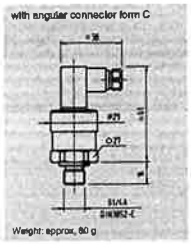
Logo	Description
-	MTTF: > 100 years
-	China RoHS conformity

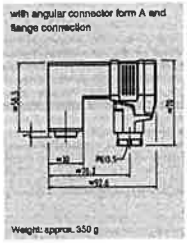
Approvals and certificates, see website

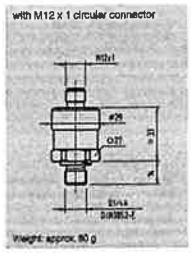
Dimensions in mm

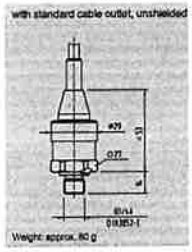
Pressure transmitter

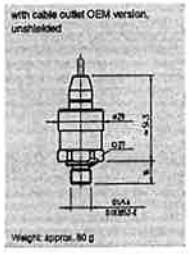








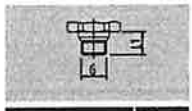




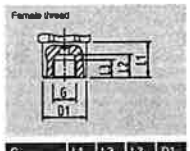
Process connections

G	L1
G ¼ A DIN 3852-E	14
G ¼ A DIN 3852-E	17
M14 x 1.5	14

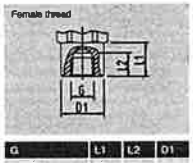
G	L1
G ¼ B EN 837	13
G ⅜ B EN 837	16
G ½ B EN 837	20
M20 x 1.5	20



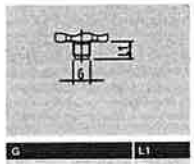
G	L1
7/16-20 UNF BOSS	12.85



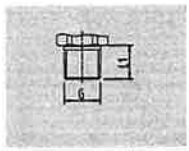
G	L1	L2	L3	D1
G ¼ EN 837	20	13	10	Ø 25



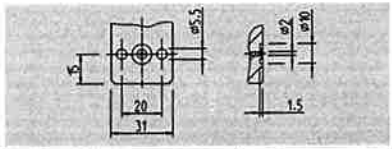
G	L1	L2	D1
¼ NPT	20	14	Ø 25



G	L1
G ⅛ B EN 837	10



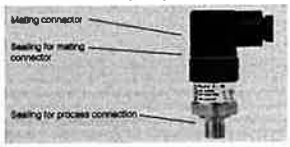
G	L1
⅛ NPT	10
¼ NPT	13
⅜ NPT	19
R ¼	13
R ⅜	15
R ½	19
PT ¼	13
PT ⅜	15
PT ½	19



G ¼ female, with flange connection	For dimensions see drawing

For information on tapped holes and welding sockets, see Technical information IN 00.14 at www.wika.com

Accessories and spare parts



Mating connector

Designation	Order number		
	without cable	with 2 m cable	with 5 m cable
Angular connector DIN 175301-803 C	1439081 [1]	11225823	11250194
Angular connector DIN 175301-803 A			
■ with cable gland, metric	11427567	11225793	11250186
■ with cable gland, conduit	11022485	-	-
Circular connector M12 x 1, 4-pin			
■ straight	2421262	11250790	11250259
■ angled	2421270	11250798	11250232

1) Connector not permissible for A-1S with GL approval

Sealings for mating connectors

Designation	Order number	
	Blue (WIKA)	Brown (neutral)
Angular connector DIN 175301-803 A	1576240	11437902
Angular connector DIN 175301-803 C	11169479	11437881

Sealings for process connection

Designation	Order number			
	Cu	Stainless steel	NBR	FKM
G ¼ EN 837	11250810	11250844	-	-
M14 x 1.5	-	-	1537857	1576554
G ⅛ EN 837	11250861	11251042	-	-
M20 x 1.5	11250861	11251042	-	-
G ⅛ EN 837	11251051	-	-	-
G ¼ DIN 3852-E	-	-	1537857	1576534
G ⅜ DIN 3852-E	-	-	1039067	1039075

Only use the accessories and spare parts listed, otherwise it could lead to the loss of the approval.

Ordering information
Model / Measuring range / Output signal / Power supply / Non-linearity / Temperature range / Process connection / Sealing / Electrical connection

WIKA Instrument Corporation
1000 Wiegand Boulevard
Lawrenceville, GA 30043
1-888-WIKA-USA (770-513-8200 in GA)
Fax 770-338-5118
info@wika.com www.wika.com

Hoja de características del producto
Características

SR2B201FU
relé inteligente compacto Zelio Logic - 20 E S – 100..240 V CA – relógio - visor

Principal

Gama de producto	Zelio Logic
Tipo de producto o componente	Relés inteligente compacto

Complementario

Visualización local	Donde
Número de líneas de esquema de control	0...500 con capacidad de sujeción: FBD programac 0...240 con capacidad de sujeción: Ladder programac
Tiempo de ciclo	6...90 ms
Tiempo de backup	10 años en 25 °C
Deriva del reloj	6 s/mes en 25 °C 12 min/ano en 0...55 °C
Comprobaciones	Memoria de programa en cada inicialización
[Us] Tensión nominal de alimentación	100...240 V CA
Límites tensión alimentación	85...264 V
Frecuencia de alimentación	50/60 Hz
Corriente de alimentación	100 mA en Ue 100 V (sin extensión) 50 mA en Ue 240 V (sin extensión)
Consumo de potencia en W	11 VA sin extensión
Tensión de aislamiento	1780 V
Tipo de protección	Contra inversión de terminales (instrucciones de control no ejecutadas)
De pie conducto	12
Voltaje entrada	100..0,240 V CA
Corriente de entrada discreta	0,6 mA
Frecuencia de entrada discreta	47..0,53 Hz 57..0,63 Hz
Estado de tensión 1 garantizado	>= 79 V para entrada digital
Estado de tensión 0 garantizado	<= 40 V para entrada digital
Estado actual 1 garantizado	>= 0,17 mA para entrada digital
Estado actual 0 garantizado	<= 0,5 mA para entrada digital
Tapa de conexiones trasero	350 kOhm (entrada digital)
Número de salidas	8 relé salidas
Límites de tensión de salida	24..0,250 V AC 5..0,30 V CC (salida del relé)

Tipo de contactos y composición	NA para salida del relé
Corriente térmica de salida	8 A para as 8 salidas (salida del relé)
Durabilidad eléctrica	500000 ciclos AC-12 en 230 V, 1.5 A para salida del relé de acuerdo con EN/IEC 60947-5-1 500000 ciclos AC-15 en 230 V, 0.9 A para salida del relé de acuerdo con EN/IEC 60947-5-1 500000 ciclos DC-12 en 24 V, 1.5 A para salida del relé de acuerdo con EN/IEC 60947-5-1 500000 ciclos DC-13 en 24 V, 0.6 A para salida del relé de acuerdo con EN/IEC 60947-5-1
Capacidad de conmutación en mA	>= 10 mA en Ue 12 V (salida del relé)
Rango de operación en hz	0.1 Hz (a le) para código de fecha de fabricación salida del relé 10 Hz (sin carga) para código de fecha de fabricación salida del relé
Durabilidad mecánica	10000000 ciclos (salida del relé)
[Uimp] Resistencia a picos de tensión	4 kV de acuerdo con EN/IEC 60947-1 y EN/IEC 60664-1
Reloj	Donde
Tiempo respuesta	10 ms (de estado 0 a estado 1) para código de fecha de fabricación salida del relé 5 ms (de estado 1 a estado 0) para código de fecha de fabricación salida del relé 50 ms con capacidad de sujeción: Ladder programac (de estado 0 a estado 1) para código de fecha de fabricación entrada digital 50 ms con capacidad de sujeción: Ladder programac (de estado 1 a estado 0) para código de fecha de fabricación entrada digital 50..0,255 ms con capacidad de sujeción: FBD programac (de estado 0 a estado 1) para código de fecha de fabricación entrada digital 50..0,255 ms con capacidad de sujeción: FBD programac (de estado 1 a estado 0) para código de fecha de fabricación entrada digital
Conexiones - terminales	Terminales de tornillo, capacid sujeción: 1 x 0,2...1 x 2,5 mm² AWG 25...AWG 14 semi-sólido Terminales de tornillo, capacid sujeción: 1 x 0,2...1 x 2,5 mm² AWG 25...AWG 14 sólido Terminales de tornillo, capacid sujeción: 1 x 0,25...1 x 2.5 mm² AWG 24...AWG 14 Flexible con terminal Terminales de tornillo, capacid sujeción: 2 x 0,2...2 x 1,5 mm² AWG 24...AWG 16 sólido Terminales de tornillo, capacid sujeción: 2 x 0,25...2 x 0,75 mm² AWG 24...AWG 19 Flexible con terminal
Par de apriete	0.5 N.m
Categoría de sobretensión	III de acuerdo con EN/IEC 60664-1
Peso del producto	0,38 kg

Entorno

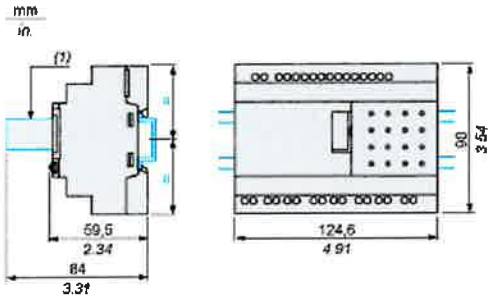
Inmunizado a microcortes	<= 1 ms
Certificaciones de producto	CSA C-Tick GL GOST UL
Normas	EN/IEC 60068-2-27 Ea EN/IEC 60068-2-6 Fc EN/IEC 61000-4-11 EN/IEC 61000-4-12 EN/IEC 61000-4-2 nivel 3 EN/IEC 61000-4-3 EN/IEC 61000-4-4 nivel 3 EN/IEC 61000-4-5 EN/IEC 61000-4-6 nivel 3
Grado de protección IP	IP20 (bloque de terminales) coordinación IEC 60529 IP40 (panel frontal) coordinación IEC 60529
Características ambientales	Directiva EMC de acuerdo con EN/IEC 61000-6-2 Directiva EMC de acuerdo con EN/IEC 61000-6-3 Directiva EMC de acuerdo con EN/IEC 61000-6-4 Directiva EMC de acuerdo con EN/IEC 61131-2 zona B Directiva bajo voltaje de acuerdo con EN/IEC 61131-2
Perturbación radiada/conducida	Clase B de acuerdo con EN 55022-11 grupo 1
Grado de contaminación	2 de acuerdo con EN/IEC 61131-2
Temperatura ambiente de funcionamiento	-20...40 °C en recinto no ventilado acorde a IEC 60068-2-1 y IEC 60068-2-2 -20...55 °C acorde a IEC 60068-2-1 y IEC 60068-2-2
Temperatura ambiente de almacenamiento	-40...70 °C
Altitud máxima de funcionamiento	2000 m
Transporte de altitud	<= 3048 m

Hoja de características del producto SR2B201FU

Esquemas de dimensiones

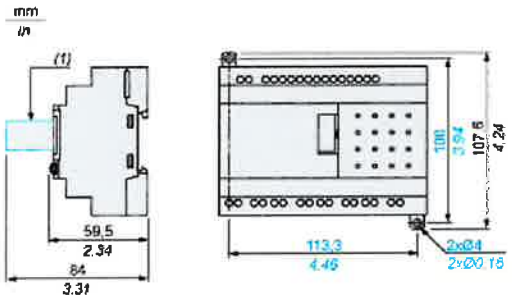
Módulos lógicos compactos y modulares

Montaje en un riel DIN de 35 mm (1.38 in)



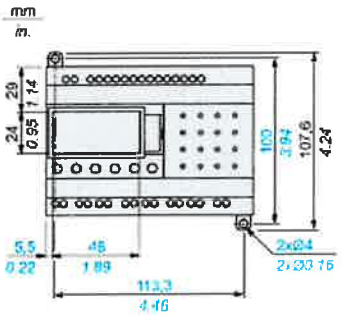
(1) Con SR2USB01 o SR2BTC01

Fijación de tornillos (orejetas replegables)



(1) Con SR2USB01 o SR2BTC01

Posición de la pantalla

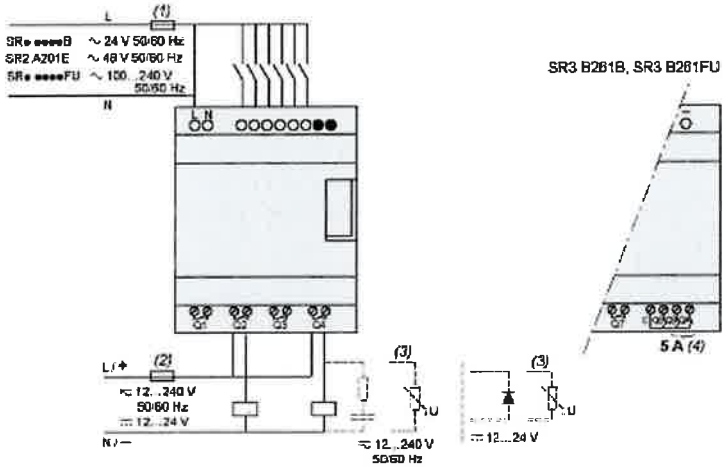


Hoja de características del producto SR2B201FU

Conexiones y esquema

Conexión de módulos lógicos en alimentación CA

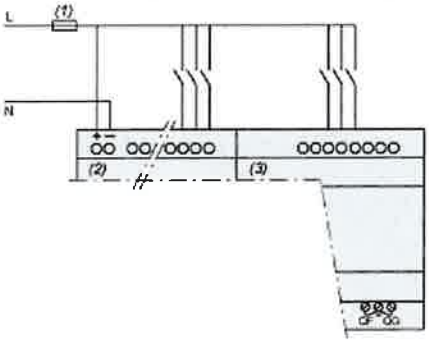
SR••••1B, SR••••1FU



(1) Fusible de acción rápida de 1 A o disyuntor.
(2) Fusible o disyuntor.
(3) Carga inductiva.
(4) Q9 y QA: 5 A (corriente máx. en terminal C: 10 A).

Con módulo de extensión de E/S binaria

SR3B•••B + SR3XT•••B, SR3B•••FU + SR3XT•••FU



(1) Fusible de acción rápida de 1 A o disyuntor.
NOTA: QF y QG: 5 A para SR3XT141••

Hoja de características del producto SR2B201FU

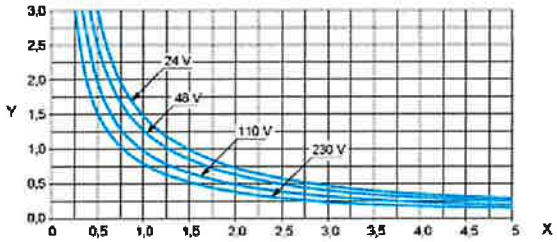
Curvas de rendimiento

Módulos lógicos compactos y modulares

Capacidad de duración eléctrica de las salidas de relé

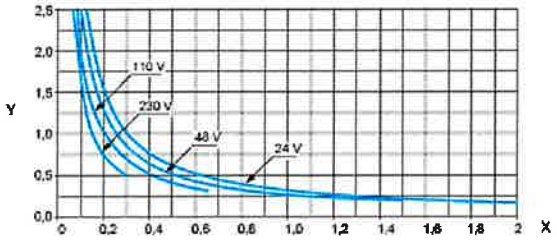
(en millones de ciclos de funcionamiento, conforme a IEC/EN 60947-5-1)

AC-12 (1)



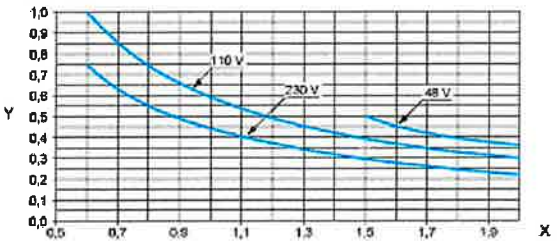
X: Corriente (A)
Y: Millones de ciclos de funcionamiento
(1) AC-12: conmutación de cargas resistivas y de cargas de estado sólido aisladas por optoacoplador, cos ≥ 0,9.

AC-14 (1)



X: Corriente (A)
Y: Millones de ciclos de funcionamiento
(1) AC-14: conmutación de cargas electromagnéticas pequeñas de ≤ 72 VA, cierre: cos = 0,3, apertura: cos = 0,3.

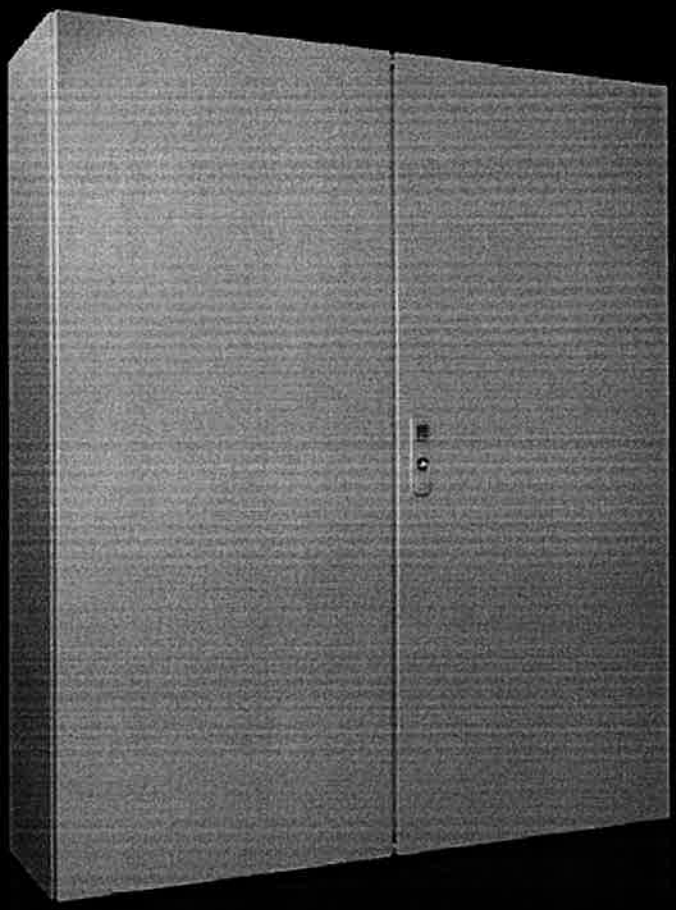
AC-15 (1)



X: Corriente (A)
Y: Millones de ciclos de funcionamiento
(1) AC-15: conmutación de cargas electromagnéticas pequeñas de ≥ 72 VA, cierre: cos = 0,7, apertura: cos = 0,4.

Rittal – The System.

Faster – better – everywhere.



AX 1213.000

Armario compacto AX

Estado: 28/02/2024 (Fuente: rittal.com/es-es)

ENCLOSURES | POWER DISTRIBUTION | CLIMATE CONTROL | IT INFRASTRUCTURE | SOFTWARE & SERVICES

RITTAL

FRIEDHELM LOH GROUP

AX 1213.000 - Armario compacto AX Armario básico AX, chapa de acero

El armario compacto AX con levas marcadas en el techo, suelo y lateral replica la conocida retícula de 25 mm del armario grande VX25. Gracias a este sistema único, patentado, los armarios compactos AX están preparados para poder ser equipados y actualizados. Los componentes y accesorios del sistema pueden instalarse de forma sencilla, rápida y segura sobre las guías, sin necesidad de taladrar.

Características

Referencia	AX 1213.000
Ventajas	Más opciones de montaje interior gracias a las levas integradas en la retícula de 25 mm en combinación con el carril para montaje interior y nuestra amplia gama de accesorios Mantenimiento del grado de protección (UL-Approbation) a partir del montaje del carril para montaje interior sin taladrar Nivel de montaje adicional y elevada capacidad de carga gracias a la guía de equipamiento del suelo Fácil planificación y configuración con el configurador RiPanel de Rittal
Material	Caja: chapa de acero Puerta: chapa de acero, junta continua de poliuretano inyectado
Superficie	Caja y puerta: imprimación por inmersión, exterior texturizado, pintura estructurada Placa de montaje: galvanizada
Color	RAL 7035
Unidad de envase	Armario con puerta(s) Placa(s) entrada de cables en el suelo de la caja Placa de montaje Listón de puerta perforado Cierre: doble paletón 3 mm
Grado de protección NEMA	NEMA 1, 12
Grado de protección IP según EN 60 529	IP 55

Características

Tipo de comunicación según UL 50E	Type 1, 12
Código IK	IK10
Dimensiones	Anchura: 1.000 mm Altura: 1.200 mm Profundidad: 300 mm
Grosor del material de la puerta	2 mm
Grosor del material de la caja	1,5 mm
Grosor del material de la placa de montaje	2,5 mm
Dimensiones placa de montaje (An. x Al.)	945 mm x 1.175 mm
Número puertas	2
Bisagras de la puerta intercambiables de izquierda a derecha	sí
Cierre	Ejecución cierre: Sistema de cierre de 3 puntos Nº de cierres: 1 Bombín de cierre: Doble paletón 3 mm
Placa de entrada de cables	Tamaño: 6 Cantidad: 2
Material básico	Chapa de acero
Unidad de embalaje	1 pza(s).
Peso/UE	73,8 kg
Código arancelario	94032080
EAN	4028177813205
E-Number Sweden	E3465163
ETIM 7.0	EC000261
ECLASS 8.0	27180101

Aprobaciones

Aprobaciones	Bureau Veritas DNV-GL Lloyds Register of Shipping UL + C-UL (listed)
Certificados	Grado de protección
Explicaciones	Declaración del fabricante Declaración de conformidad Declaración de conformidad UK

HTB010 Series Copper Terminal Block

Order Information

■ **HTB0100609**

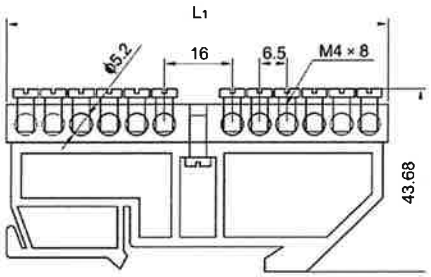
Holes	Cross section (mm)	Hole diameter (mm)	Installation dimension(mm) (L)	Overall dimensions (mm) (L1)	Reference
4	6 x 9	5.2	35x 7.5	88.5x 12.1	HTB0100609W4*
6	6 x 9	5.2	35x 7.5	88.5x 12.1	HTB0100609W6*
8	6 x 9	5.2	35x 7.5	88.5x 12.1	HTB0100609W8*
10	6 x 9	5.2	35x 7.5	88.5x 12.1	HTB0100609W10*
12	6 x 9	5.2	35x 7.5	90.5x 12.1	HTB0100609W12*
14	6 x 9	5.2	35x 7.5	103.5x 12.1	HTB0100609W14*
16	6 x 9	5.2	35x 7.5	116.5x 12.1	HTB0100609W16*

"*" means support color below:

Y=Yellow

B=Blue

Dimension



Unit:mm

■ **HTB0100812**

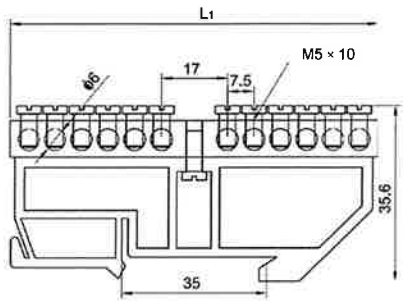
Holes	Cross section (mm)	Hole diameter (mm)	Installation dimension(mm) (L)	Overall dimensions (mm) (L1)	Reference
4	8 x 12	6	35x7.5	88.5x12.1	HTB0100812W4*
6	8 x 12	6	35x7.5	88.5x12.1	HTB0100812W6*
8	8 x 12	6	35x7.5	88.5x12.1	HTB0100812W8*
10	8 x 12	6	35x7.5	88.5x12.1	HTB0100812W10*
12	8 x 12	6	35x7.5	102x12.1	HTB0100812W12*
14	8 x 12	6	35x7.5	117x12.1	HTB0100812W14*
16	8 x 12	6	35x7.5	132x12.1	HTB0100812W16*

"*" means support color below:

Y=Yellow

B=Blue

Dimension



Unit:mm

HTB019 Series Copper Terminal Block

Order Information

■ **HTB0190609**

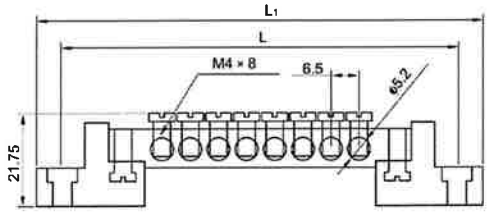
Holes	Cross section (mm)	Hole diameter (mm)	Installation dimension(mm) (L)	Overall dimensions (mm) (L1)	Reference
4	6 x 9	5.2	64.5	76.5 x12.5	HTB0190609W4*
6	6 x 9	5.2	77.5	89.5 x12.5	HTB0190609W6*
8	6 x 9	5.2	90.5	102.5 x12.5	HTB0190609W8*
10	6 x 9	5.2	103.5	115.5 x12.5	HTB0190609W10*
12	6 x 9	5.2	116.5	128.5 x12.5	HTB0190609W12*
14	6 x 9	5.2	129.5	141.5 x12.5	HTB0190609W14*
16	6 x 9	5.2	142.5	154.5 x12.5	HTB0190609W16*

"*" means support color below:

G=Green

B=Blue

Dimension **Unit:mm**



■ **HTB0190812**

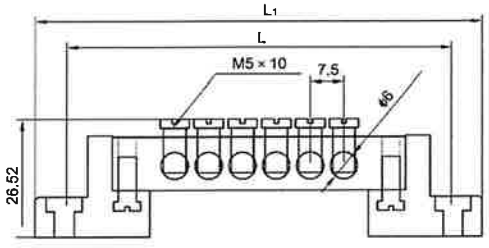
Holes	Cross section (mm)	Hole diameter (mm)	Installation dimension(mm) (L)	Overall dimensions (mm) (L1)	Reference
4	8 x 12	6	71.5	84.5x12.5	HTB0190812W4*
6	8 x 12	6	86.5	99.5x12.5	HTB0190812W6*
8	8 x 12	6	101.5	114.5x12.5	HTB0190812W8*
10	8 x 12	6	116.5	129.5x12.5	HTB0190812W10*
12	8 x 12	6	131.5	144.5x12.5	HTB0190812W12*
14	8 x 12	6	146.5	159.5x12.5	HTB0190812W14*
16	8 x 12	6	161.5	174.5x12.5	HTB0190812W16*

"*" means support color below:

G=Green

B=Bluc

Dimension **Unit:mm**



HTB007 Series Copper Terminal Block

Order Information

■ **HTB0070609**

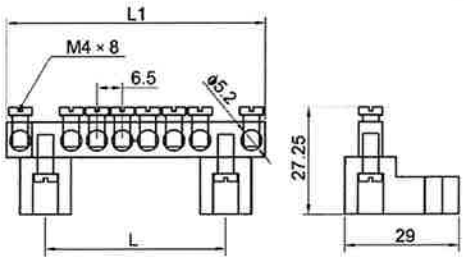
Holes	Cross section	Hole diameter (mm)	Installation dimension(mm) (L)	Overall dimensions (mm) (L1)	Reference
6	6 x 9	5.2	44.5	58.5 x 29	HTB0070609W6
8	6 x 9	5.2	44.5	65.5 x 29	HTB0070609W8*
10	6 x 9	5.2	44.5	78.5 x 29	HTB0070609W10*
12	6 x 9	5.2	44.5	91.5 x 29	HTB0070609W12*
14	6 x 9	5.2	44.5	104.5 x 29	HTB0070609W14*
16	6 x 9	5.2	44 5	117.5 x 29	HTB0070609W16*

"*" means support color below:

G=Green

B=Blue

Dimension **Unit:mm**



■ **HTB0070812**

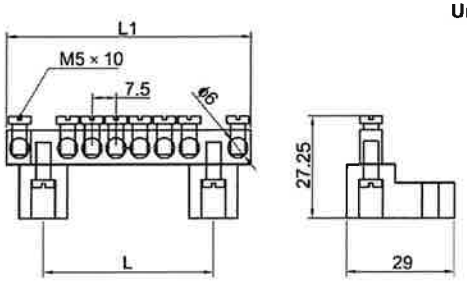
Holes	Cross section	Hole diameter (mm)	Installation dimension(mm) (L)	Overall dimensions (mm) (L1)	Reference
6	8 x 12	6	52.5	68.5 x 28.5	HTB0070812W6*
8	8 x 12	6	52.5	77.5 x 28.5	HTB0070812W8*
10	8 x 12	6	52.5	92.5 x 28.5	HTB0070812W10*
12	8 x 12	6	52.5	107.5 x 28.5	HTB0070812W12*
14	8 x 12	6	52.5	122.5 x 28.5	HTB0070812W14*
16	8 x 12	6	52.5	137.5 x 28.5	HTB0070812W16*

"*" means support color below:

G=Green

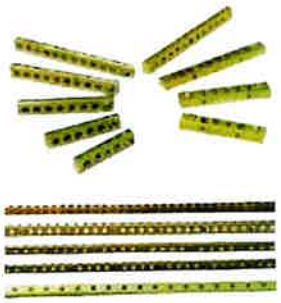
B=Blue

Dimension **Unit:mm**



HTB112 Series Copper Terminal Blocks
HTB043 Series Copper Terminal Blocks

Order Information



■ **HTB043**

Holes	Cross section (mm)	Hole diameter (mm)	Screw dimension (mm)	Reference
78	16 x 16	9	M6*12	HTB0431616W078
109	14 x 14	7	M6*12	HTB0431414W109
116	10 x 10	6	M5*10	HTB0431010W116
116	8 x 12	6.5	M5*10	HTB0430812W116
116	8 x 10	6	M5*10	HTB0430810W116
116	9 x 9	5.5	M5*10	HTB0430909W116
133	7 x 9	5.2	M4*10	HTB0430709W133
133	8 x 8	5.2	M4*8	HTB0430808W133
133	6 x 9	5.2	M4*8	HTB0430609W133
133	6 x 8	5	M4*8	HTB0430608W133

■ **HTB112**

line	Holes per line	Overall dimensions			Installation dimension(mm) (L)	Reference
		Length	Width	Height		
2	7	65	45	51	45 x M4	HTB112W2P7
2	15	132	45	51	112 x M4	HTB112W2P15
4	7	65	88	51	45 x M4	HTB112W4P7
4	11	100	88	51	80 x M4	HTB112W4P11
4	15	132	88	51	112 x M4	HTB112W4P15

Electrode Holder

PS-□S(R)/-31

CSM_PS-_S(R)_-31_DS_E_5_1

Separate Electrode Holders for Water Supply and Drainage Control in Buildings. Small, Lightweight Electrode Holders for Use as Built-in Components.

- The PS-□S(R) are separate Electrode Holders that allow the Electrodes to be withdrawn easily for inspection.
- The PS-□S(R) come in 3, 4, or 5 pole models for supply and drainage of tap water in buildings.
- PS-31 is a small and light-weight Electrode Holder that is suitable for installation in limited space and built-in components.

⚠ Refer to *Safety Precautions for Electrodes and Electrode Holders.*

Ordering Information

■ Electrode Holders

Application	Model
General applications for purified water	
For 3-pole electrode	PS-3S
For 3-pole electrode (2-wire)	PS-3SR
For 4-pole electrode	PS-4S
For 4-pole electrode (2-wire)	PS-4SR
For 5-pole electrode	PS-5S
For 5-pole electrode (2-wire)	PS-5SR
For small spaces (2-pole)	PS-31 (SUS304, 300 mm)

■ Accessories (Order Separately)

Application	Model
Protective Cover (for PS-□S and BF-3/-5)	F03-11
Mounting Frame (for PS-□S)	F03-12
Mounting Frame for Installing in Concrete (for PS-□S)	F03-13
Dust-proof Rubber Cap (for PS-31)	F03-31

Specifications

Item / Model	PS-3S(R) (See note 1.)	PS-4S(R) (See note 1.)	PS-5S(R) (See note 1.)	PS-31 (See note 2.)
No. of Electrodes	3	4	5	3 (See note 3.)
Material	Resin (PBT = Polybutylene terephthalate)			
Insulation resistance	100 MΩ min.			
Operating temperature	–10 to 70°C (with no icing)			
Operating pressure	Atmospheric pressure			
Applications	Water supply and drainage control in buildings			Limited Mounting Space

Note: 1. The Two-wire Electrode Holders (R models) have a built-in resistor of 6.8 kΩ. They should be used with the Two-wire 61F Controllers.

2. The PS-31 is already connected to the electrodes. The electrodes come in lengths of 300 mm and 1,000 mm. Specify the length when ordering. Cut the electrodes to the desired length.

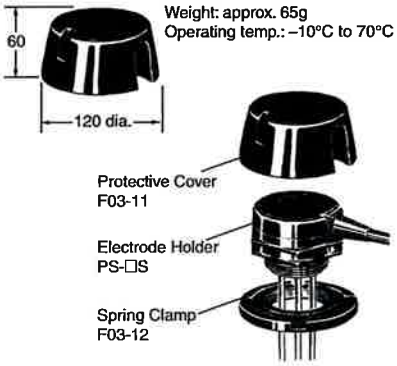
3. PS-31 comes in a 3-pole model only.

■ PS-□S(R) Electrode Holder Accessories (Order Separately)

F03-11 Protective Cover

Use this Cover for PS-series Electrode Holders with Mounting Frames (upper one in the following illustration), This Cover can also be used when installing the BF-series Electrode Holders outdoors. Since this Cover is not water-proof, water or dust may enter through the wire hole (lower one below).

Applicable Electrode Holders:
BF-3, BF-4, BF-5, PS-3S(R), PS-4S(R), PS-5S(R)

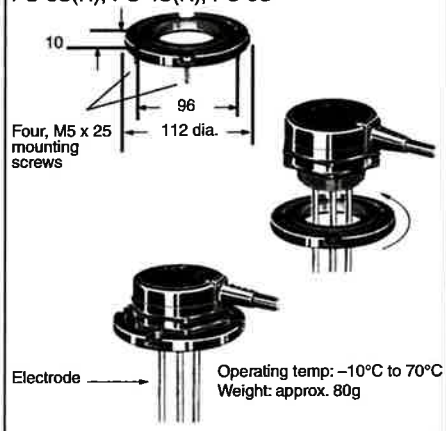


F03-12 Spring Clamp

Used to clamp an Electrode Holder with ease, as shown in the illustrations, when the Electrode Holder is applied to a tank without a coupling.

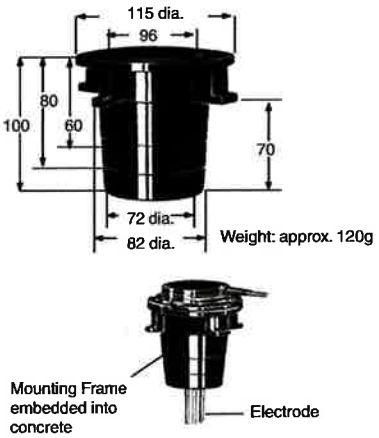
Squeeze the mounting frame into the Holder as shown below.

Applicable Electrode Holders:
PS-3S(R), PS-4S(R), PS-5S



F03-13 Mounting Frame for installing in concrete

Firmly secure the F03-12 Spring Clamp to the F03-13 Mounting Frame with M5 x 25 screws and embed it into the concrete production water tank. Cut the F03-13 to match the depth of the concrete.

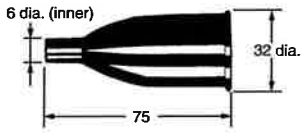


Note: If the F03-11 and F03-12 are used together, the screws and bolts that are provided with the F03-11 cannot be used.

■ PS-31 Electrode Holder Accessories (Order Separately)

F03-31 Dust-proof Rubber Bushing

Note: This Bushing is not waterproof.



Material: Silicon rubber

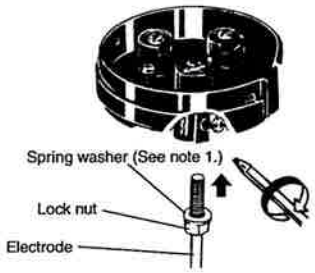
■ Accessories Required for Connecting the PS-□S(R) and Electrodes (Order Separately)

Electrodes Shorter than 1 m

The following items are required for each pole.

- 1 × F03-01 Electrode
- 1 × F03-03 Lock Nut

The Electrode can be cut anywhere based on the control level.

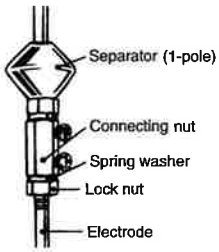


Electrode Longer than 1 m

The following items are required for every additional meter of electrode for each pole.

- 1 × F03-01 Electrode
- 1 × F03-02 Connecting Nut
- 2 × F03-03 Lock Nuts

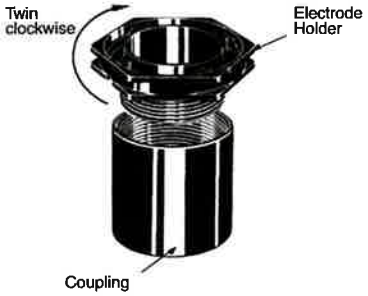
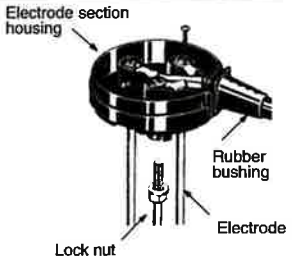
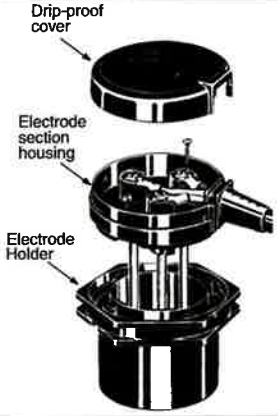
Use F03-14 1P, 3P, and 5P Separators to prevent the electrodes from touching each another.



Note: 1. The spring washer comes with the lock nut.
2. Refer to *F03-□* for details on Electrodes, Connecting Nuts, Lock Nuts, and Separators.

Mounting

■ PS-3S Electrode Holders

1. Mounting Electrode Holder	2. Attaching Electrode(s) to Electrode section	3. Inserting Electrode section into Electrode Holder
• Screw the Electrode Holder into the coupling secured at the installation location.	• Insert each Electrode into the connecting nut, secure the Electrode with the clamp screws, and then tighten the lock nut. • Connect the leads, inserted through the hole of the rubber bushing, into the respective terminals.	• Fit the Electrode section into the Electrode Holder and secure it with the two screws. • Check the Electrode section for proper wiring, fit the rubber bushing in position, and then cover the Electrode Holder with the drip-proof cover.
		

Note: 1. OMRON does not sell couplings.

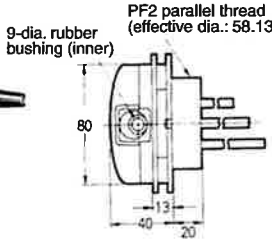
2. Screw in the Electrode until it reaches the bottom of the nut. Insufficient insertion will cause a faulty connection.

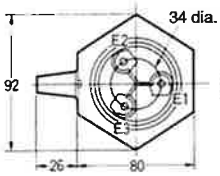
Dimensions

Note: All units are in millimeters unless otherwise indicated.

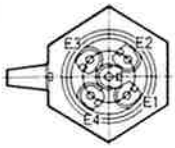
■ Electrode Holders

PS-3S/-4S/-5S
PS-3SR/-4SR/-5SR
(see note)

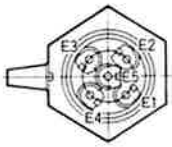




PS-3S (approx. 150 g)
PS-3SR (approx. 155 g)

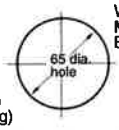


PS-4S (approx. 170 g)
PS-4SR (approx. 175 g)



PS-5S (approx. 185 g)
PS-5SR (approx. 190 g)

Mounting Holes



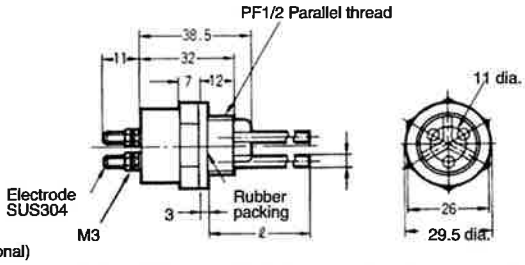
Mounting Screw Holes

Note: The PS-3SR, PS-4SR, and PS-5SR have built-in resistor of 6.8 kΩ and used for the two-wire 61F models.

PS-31

Weight: approx. 325 g

F03-31 Dust-preventive rubber cap (optional)
Weight: approx. 20 g



Mounting Holes

Note: Standard holder construction includes three integral 300-mm-long Electrodes. However, a model having 1,000-mm-long Electrodes is available on request.

■ Safety Precautions

Refer to *Safety Precautions for All Level Controllers.*

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

Product data sheet
Characteristics

EZ9F56210
Easy9 miniature circuit breaker- 2P - 10 A - C curve - 6000 A - 230 V

Main

Range	Easy9
Device application	Distribution
Product or component type	Miniature circuit-breaker
Device short name	Easy9 MCB
Poles	2P
Number of protected poles	2
[In] rated current	10 A
Network type	AC
Trip unit technology	Thermal-magnetic
Curve code	C
Breaking capacity	10000 A Icn at 220 V AC 50/60 Hz conforming to IEC 60898-1 6000 A Icn at 400 V AC 50/60 Hz conforming to IEC 60898-1
Suitability for isolation	Yes conforming to IEC 60898-1

Complementary

Network frequency	50/60 Hz
[Ue] rated operational voltage	220 V AC 50/60 Hz 400 V AC 50/60 Hz
Magnetic tripping limit	5...10 x In
[Ics] rated service breaking capacity	6 kA 100 % x Icn at 230 V AC 50/60 Hz conforming to IEC 60898-1
[Ui] rated insulation voltage	500 V AC 50/60 Hz conforming to IEC 60898-1
[Uimp] rated impulse withstand voltage	4 kV conforming to IEC 60898-1
Contact position indicator	Yes
Control type	Toggle
Local signalling	Without
Mounting mode	Clip-on
Mounting support	DIN rail
9 mm pitches	4
Height	81 mm
Width	36 mm
Depth	66.5 mm
Colour	Grey (RAL 7035)
Mechanical durability	10000 cycles
Electrical durability	4000 cycles
Connections - terminals	Tunnel type terminal (top or bottom) 1...25 mm² rigid Tunnel type terminal (top or bottom) 1...16 mm² flexible
Tightening torque	2 N.m top or bottom
Earth-leakage protection	Without

Environment

Standards	IEC 60898-1
Product certifications	CE
IP degree of protection	IP20 conforming to IEC 60529
Pollution degree	2
Tropicalisation	2

Relative humidity	95 % at -5…60 °C
Ambient air temperature for operation	-5…60 °C
Ambient air temperature for storage	-40…85 °C

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	7.6 cm
Package 1 Width	3.6 cm
Package 1 Length	8.5 cm
Package 1 Weight	205 g
Unit Type of Package 2	BB1
Number of Units in Package 2	6
Package 2 Height	7.6 cm
Package 2 Width	9 cm
Package 2 Length	22.6 cm
Package 2 Weight	1.292 kg
Unit Type of Package 3	S03
Number of Units in Package 3	72
Package 3 Height	30 cm
Package 3 Width	30 cm
Package 3 Length	40 cm
Package 3 Weight	14.76 kg

Offer Sustainability

Sustainable offer status	Green Premium product
REACh Regulation	REACh Declaration
EU RoHS Directive	Compliant with Exemptions
Mercury free	Yes
China RoHS Regulation	China RoHS Declaration
RoHS exemption information	Yes
Environmental Disclosure	Product Environmental Profile
Circularity Profile	No need of specific recycling operations
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

Hoja de características del producto
Características

XB4BVM3
Piloto luminoso ø 22 - verde - led integrado - 230 V

Principal

Gama de producto	Harmony XB4
Tipo de producto o componente	Piloto luminoso completo
Nombre corto del dispositivo	XB4
Material del bisel	Metal cromado plateado
Material del anillo fijación	Zamak
Diámetro de montaje	22 mm
Tipo de cabeza	Normas
Se vende en cantidades indivisibles	1
Forma de la cabeza de señalización	Circular
Tapa/Cabeza o color de la lente	Verde
Información adicional del operador	Con lente lisa
Fuente de luz	LED protegido
Base de bombilla	LED integrado
Color de la fuente de luz	Verde
[Us] tensión de alimentación asignada	230...240 V AC, 50/60 Hz

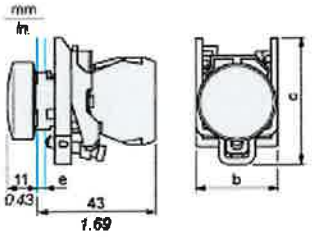
Complementario

Altura	47 mm
Anchura	30 mm
Profundidad	54 mm
Descripción terminales iso n°1	(X1-X2)PL
Peso del producto	0,08 kg
Resistencia a lavados de alta presión	7000000 Pa en 55 °C,distancia: 0,1 m
Conexiones - terminales	Bornas tornillo (pedido por separado)<= 2 x 1.5 mm² con terminal acorde a EN/IEC 60947-1 Bornas tornillo (pedido por separado)1 x 0,22-2 x 2,5 mm² sin terminal acorde a EN/IEC 60947-1
[Ui] Tensión nominal de aislamiento	250 V (grado de contaminación: 3) acorde a EN 60947-1
[Uimp] Resistencia a picos de tensión	4 kV acorde a EN 60947-1
Tipo de señalización	Fijo
Límites de tensión de alimentación	195...264 V AC
Consumo de corriente	14 mA
Vida	100000 h a tensión nominal y 25 °C

Hoja de características del producto XB4BVM3

Esquemas de dimensiones

Dimensiones



e: espesor de sujeción: de 1 a 6 mm (de 0.04 a 0.24 in)
b: 30 mm (1.18 in)
c: 46,5 mm (1.83 in)

Resistencia a sobretensiones	1 kV acorde a IEC 61000-4-5

Entorno

Tratamiento de protección	TH
Temperatura ambiente de almacenamiento	-40...70 °C
Temperatura ambiente de funcionamiento	-40...70 °C
Clase de potección contra descargas eléctricas	Clase I acorde a IEC 60536
Grado de protección IP	IP69 IP67 IP66 acorde a IEC 60529 IP69K
Grado de protección nema	NEMA 13 NEMA 4X
Grado de protección IK	IK06 acorde a IEC 50102
Normas	EN/IEC 60947-1 EN/IEC 60947-5-1 EN/IEC 60947-5-4 EN/IEC 60947-5-5 JIS C 4520 UL 508 CSA C22.2 No 14
Certificaciones de producto	CSA Registrado por UL
Resistencia a las vibraciones	5 gn (estado 1) 12...500 Hz) acorde a IEC 60068-2-6
Resistencia a los choques	30 gn (duración 18 ms) para aceleración de media onda sinusoidal acorde a IEC 60068-2-27 50 gn (duración 11 ms) para aceleración de media onda sinusoidal acorde a IEC 60068-2-27
Resistencia a transitorios rápidos	2 kV acorde a IEC 61000-4-4
Resistencia a los campos electromagnéticos	10 V/m acorde a IEC 61000-4-3
Resistencia a descargas electroestáticas	6 kV en contacto (en piezas metálicas) acorde a IEC 61000-4-2 8 kV en aire libre (en piezas aislantes) acorde a IEC 61000-4-2
Soporte de sujeción de cables	Clase B acorde a IEC 55011

Información Logística

País de Origen	Francia

Garantía contractual

Warranty period	18 months 18 months

Hoja de datos del producto
Características

EZ9F56363
Llave térmica Easy9 3P 63A 6kA 230/400V AC curva tipo C

Principal

Gama	Easy9
Aplicación del Dispositivo	Distribución Eléctrica Residencial y Comercial
Tipo de Producto o Componente	Interruptor automático en miniatura
Nombre Corto del Dispositivo	Easy9 MCB
Polos	3P
Número de polos protegidos	3
Corriente nominal (In)	63 A
Tipo de red	CA
Tecnología de unidad de disparo	Térmico-magnético
Código de curva	C
Poder de corte	10000 A Icn en 220 V CA 50/60 Hz acorde a IEC 60898-1 6000 A Icn en 400 V CA 50/60 Hz acorde a IEC 60898-1
Apto para seccionamiento	Sí acorde a IEC 60898-1

Complementario

Frecuencia de Red	50/60 Hz
[Ue] tensión asignada de empleo	220 V CA 50/60 Hz 400 V CA 50/60 Hz
Límite de enlace magnético	5...10 x In
[Ics] poder de corte en servicio	6 kA 100 % x Icn en 400 V CA 50/60 Hz acorde a IEC 60898-1
[Ui] tensión asignada de aislamiento	500 V CA 50/60 Hz acorde a IEC 60898-1
[Uimp] Tensión asignada de resistencia a los choques	4 kV acorde a IEC 60898-1
Indicador de posición del contacto	Sí
Tipo de Control	Maneta
Señalización local	Sin
Tipo de montaje	Ajustable en clip
Tipo de montaje	Carril DIN
Pasos de 9 mm	6
Altura	81 mm
Ancho	54 mm
Profundidad	66.5 mm
Color	Gris - tipo de cable: RAL 7035)
Endurancia mecánica	10000 Ciclos
Durabilidad eléctrica	4000 Ciclos
Conexiones - terminales	Terminal tipo túnel - tipo de cable: arriba o abajo) 1...25 mm² Flexible Terminal tipo túnel - tipo de cable: arriba o abajo) 1...35 mm² rígido
Par de apriete	3.5 N.m arriba o abajo
Protección contra fugas a tierra	Sin

Entorno

Normas	IEC 60898-1
Certificaciones de Producto	CE[RETURN]VDE
Grado de protección IP	IP20 conforming to IEC 60529
Grado de contaminación	2
Tropicalización	2
Humedad relativa	95 % en -5...60 °C
Temperatura ambiente de funcionamiento	-5...60 °C
Temperatura ambiente de almacenamiento	-40...85 °C

Unidades de embalaje

Tipo de unidad de paquete 1	PCE
Número de unidades en el paquete 1	1
Paquete 1 Altura	7.5 cm
Paquete 1 Ancho	5.3 cm
Paquete 1 Longitud	8.5 cm
Paquete 1 Peso	380 g
Tipo de unidad de paquete 2	BB1
Número de unidades en el paquete 2	4
Paquete 2 Altura	7.8 cm
Paquete 2 Ancho	8.8 cm
Paquete 2 Longitud	22.6 cm
Paquete 2 Peso	1.536 kg
Tipo de unidad de paquete 3	S03
Número de unidades en el paquete 3	48
Paquete 3 Altura	30 cm
Paquete 3 Ancho	30 cm
Paquete 3 Longitud	40 cm
Paquete 3 Peso	18.24 kg

Sostenibilidad de la oferta

Estado de oferta sostenible	Producto Green Premium
Reglamento REACh	Declaración De REACh
Directiva RoHS UE	Compatible con las excepciones
Sin mercurio	Sí
Sustainable packaging	Yes
Normativa de RoHS China	Declaración RoHS China
Información sobre exenciones de RoHS	Sí
Comunicación ambiental	Perfil Ambiental Del Producto
Perfil de circularidad	No se necesitan operaciones de reciclaje específicas
RAEE	En el mercado de la Unión Europea, el producto debe desecharse de acuerdo con un sistema de recolección de residuos específico y nunca terminar en un contenedor de basura.

Garantía contractual

Periodo de garantía	18 meses

Product datasheet
Characteristics

XB4BVM4
red complete pilot light Ø22 plain lens with integral LED 230...240V

Main

Range of product	Harmony XB4
Product or component type	Complete pilot light
Device short name	XB4
Bezel material	Chromium plated metal
Fixing collar material	Zamak
Mounting diameter	22 mm
Sale per indivisible quantity	1
Shape of signaling unit head	Round
Cap/operator or lens colour	Red
Operator additional information	With plain lens
Light source	Protected LED
Bulb base	Integral LED
Light source colour	Red
[Us] rated supply voltage	230...240 V AC, 50/60 Hz

Complementary

Height	47 mm
Width	30 mm
Depth	54 mm
Terminals description ISO n°1	(X1-X2)PL
Product weight	0.08 kg
Resistance to high pressure washer	7000000 Pa at 55 °C,distance: 0.1 m
Connections - terminals	Screw clamp terminals : <= 2 x 1.5 mm² with cable end conforming to EN/IEC 60947-1 Screw clamp terminals : 1 x 0.22...2 x 2.5 mm² without cable end conforming to EN/IEC 60947-1
[Ui] rated insulation voltage	250 V (degree of pollution: 3) conforming to EN 60947-1
[Uimp] rated impulse withstand voltage	4 kV conforming to EN 60947-1
Signalling type	Steady
Supply voltage limits	195...264 V AC
Current consumption	14 mA
Service life	100000 h at rated voltage and 25 °C
Surge withstand	1 kV conforming to IEC 61000-4-5

Environment

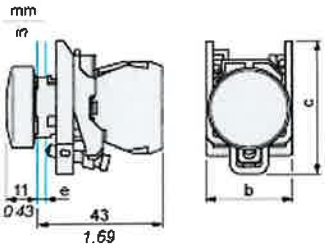
protective treatment	TH
ambient air temperature for storage	-40...70 °C
ambient air temperature for operation	-40...70 °C
class of protection against electric shock	Class I conforming to IEC 60536
IP degree of protection	IP67 IP66 conforming to IEC 60529 IP69K IP69
NEMA degree of protection	NEMA 13 NEMA 4X
IK degree of protection	IK06 conforming to IEC 50102
standards	EN/IEC 60947-1 EN/IEC 60947-5-1 EN/IEC 60947-5-4 EN/IEC 60947-5-5

	JIS C 4520 UL 508 CSA C22.2 No 14
product certifications	CSA UL listed
vibration resistance	5 gn (f = 12...500 Hz) conforming to IEC 60068-2-6
shock resistance	30 gn (duration = 18 ms) for half sine wave acceleration conforming to IEC 60068-2-27 50 gn (duration = 11 ms) for half sine wave acceleration conforming to IEC 60068-2-27
resistance to fast transients	2 kV conforming to IEC 61000-4-4
resistance to electromagnetic fields	10 V/m conforming to IEC 61000-4-3
resistance to electrostatic discharge	6 kV on contact (on metal parts) conforming to IEC 61000-4-2 8 kV in free air (in insulating parts) conforming to IEC 61000-4-2
electromagnetic emission	Class B conforming to IEC 55011

Contractual warranty

Warranty period	18 months

Dimensions

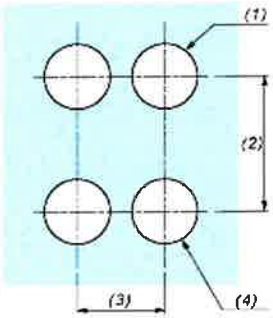
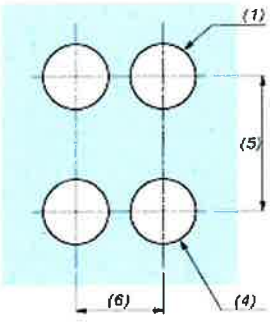


e : clamping thickness: 1 to 6 mm / 0.04 to 0.24 in.

b : 30 mm / 1.18 in.

c : 46.5 mm / 1.83 in.

Panel Cut-out for Pushbuttons, Switches and Pilot Lights (Finished Holes, Ready for Installation)

Connection by Screw Clamp Terminals or Plug-in Connectors or on Printed Circuit Board	Connection by Faston Connectors
	

(1) Diameter on finished panel or support

(2) 40 mm min. / 1.57 in. min.

(3) 30 mm min. / 1.18 in. min.

(4) Ø 22.5 mm / 0.89 in. recommended (Ø 22.3 mm $_{0}^{+0.4}$ / 0.88 in. $_{0}^{+0.016}$)

(5) 45 mm min. / 1.78 in. min.

(6) 32 mm min. / 1.26 in. min.

Feb 26, 2024

Product data sheet

HDIN12T1000

Characteristics

Symmetrical DIN rail, HDIN, 1 mm thickness, 1000 mm length, steel

Main

Range of produc	HDIN
Device application	Multi-purpose
Product or component type	DIN rail
Accessory / separate part category	Installation accessory

Complementary

Type of rail	Symmetrical DIN
Material	Steel
Length	1000 mm
Thickness	1 mm

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1

GARLAS CONTROL, S.A. Seguridad y Control Santo Domingo, Rep. Dom.

Hoja de datos del producto
Características

NSYTRV42
Bloque de Terminales de Paso - 4 Mm² 32 a Nivel Único 1X1 Tornillo - Gris

Principal

Gama	Linergy
Nombre del Producto	Linergy TR
Tipo de Producto o Componente	Bloque de terminales
Nombre Corto del Dispositivo	TRV
Categoría de accesorios / repuestos	Accesorio de conexión
Tipo de bloque de terminales	Paso
Nivel de bornas	1
Tipo de montaje	Ajustable en clip
Sección transversal nominal	4 mm²
Longitud	47.7 mm
Color	Gris
Cantidad por juego	Juego de 50

Complementario

Ancho	6.2 mm
Altura	47.5 mm
Conexiones - terminales	1 x terminal de tornillo, estado 1 hacia arriba - tipo de cable: M3) 1 x terminal de tornillo, estado 1 hacia abajo - tipo de cable: M3)
Número de conexiones	2
Posición de conexión	De lado
Número de entrada de medición	2
Sección transversal de cable	0.14…6 Mm², sólido cable Con terminal 0.2…4 Mm², Flexible cable Con terminal 0.2…6 Mm², sólido cable Sin terminal 0.2…6 mm², Flexible cable Sin terminal
Par de apriete	0.6…0.8 N.m
Longitud de cable pelado para conectar bornas	9 mm
Tipo de herramienta	Conexión, estado 1 destornillador Desconexión, estado 1 destornillador
[Ue] tensión asignada de empleo	1000 V acorde a EN/IEC 60947-7-1 600 V CSA 690 V acorde a ATEX Exe II Ex II 2 GD 600 V cURus
Corriente nominal (In)	32 A acorde a EN/IEC 60947-7-1 30 A CSA 30 A acorde a ATEX Exe II Ex II 2 GD 30 A cURus
Material	Poliamida 6/6: caja aislante Aleación de cobre: conector y tornillo Aleación de cobre: enlace de conexión Acero al cromo-níquel: resorte
2 en armario	0.01 a 1 MHz acorde a IEC 60250 0.01 a 1 MHz acorde a VDE 0303-T4
Almohadilla plana	3.7 a 1 MHz
Resistividad	10000 MΩ.M acorde a IEC 60093 10000 MΩ.m acorde a VDE 0303-T30

Resistencia de superficie	1000 GOhm acorde a IEC 60093 1000 GOhm acorde a VDE 0303-T30
Resistencia al desplazamiento	500 CTI (> 400 kB) acorde a IEC 60093 500 CTI (> 400 kB) acorde a VDE 0303-T30
Resistencia a las llamas	V0, grosor0.8 mm acorde a UL 94
Peso del producto	9.4 g
Compatibilidad de gama	Prisma G Prisma P Prisma PH Prisma Pack Spacial Kaedra Pragma TeSys
Compatibilidad del producto	Armarios Spacial

Entorno

Certificaciones de Producto	cURus[RETURN]VDE[RETURN]IEC-Ex[RETURN]ATEX[RETURN]GL[RETURN]EAC[RETURN]LR[RETURN]CSA[RETURN]DNV
Fuerza dieléctrica	1000 V acorde a IEC 60243-1
Temperatura ambiente de funcionamiento	-40...130 °C acorde a IEC 60216-1 -40...130 °C acorde a VDE 0304-T21

Unidades de embalaje

Tipo de unidad de paquete 1	PCE
Número de unidades en el paquete 1	1
Paquete 1 Altura	1.0 cm
Paquete 1 Ancho	4.6 cm
Paquete 1 Longitud	4.8 cm
Paquete 1 Peso	9.0 g
Tipo de unidad de paquete 2	BB1
Número de unidades en el paquete 2	50
Paquete 2 Altura	5.0 cm
Paquete 2 Ancho	6.0 cm
Paquete 2 Longitud	32.0 cm
Paquete 2 Peso	478 g
Tipo de unidad de paquete 3	S06
Número de unidades en el paquete 3	10400
Paquete 3 Altura	75.0 cm
Paquete 3 Ancho	60.0 cm
Paquete 3 Longitud	80.0 cm
Paquete 3 Peso	108.500 kg

Sostenibilidad de la oferta

Estado de oferta sostenible	Producto Green Premium
Reglamento REACh	Declaración De REACh
Directiva RoHS UE	Compatible con las excepciones
Sin mercurio	Sí
Normativa de RoHS China	Declaración RoHS China
Información sobre exenciones de RoHS	Sí
Comunicación ambiental	Perfil Ambiental Del Producto
Perfil de circularidad	No se necesitan operaciones de reciclaje específicas
RAEE	En el mercado de la Unión Europea, el producto debe desecharse de acuerdo con un sistema de recolección de residuos específico y nunca terminar en un contenedor de basura.
Presencia de halógenos	Producto con contenido plástico sin halógenos

Hoja de datos del producto
Características

NSYTRV22
Terminal block, Linergy TR, grey, 2.5mm2, passthrough, 2 points, set of 10

Principal

Gama	Linergy
Nombre del Producto	Linergy TR
Tipo de Producto o Componente	Bornero
Nombre Corto del Dispositivo	TRV
Categoría de accesorios / repuestos	Accesorio de conexión
Tipo de bornero	Paso
Nivel de bornas	1
Tipo de montaje	Clip-on
Sección nominal	2,5 mm²
Longitud	47,7 mm
Color	Gris
Cantidad por juego	Juego de 50

Complementario

Ancho	5,2 mm
Altura	47,5 mm
Conexiones - terminales	1 x terminal de tornillo: hacia arriba (M3) 1 x terminal de tornillo: hacia abajo (M3)
Número de terminales	2
Posición de conexión	De lado
Número de entradas de medición	2
Sección de cable	0,14…4 Mm², sólido cable con extr. cable 0,2…2,5 Mm², flexible cable con extr. cable 0,14…4 Mm², sólido cable sin extremo de cable 0,14…4 mm², flexible cable sin extremo de cable
Par de apriete	0,5…0,6 N.m
Longitud de pelado de cable	9 mm
Tipo de herramienta	Conexión: destornillador Desconexión: destornillador
Tensión asignada de empleo	1000 V conforme a EN/IEC 60947-7-1 600 V CSA 690 V conforme a ATEX Exe II Ex II 2 GD 600 V cURus
Corriente nominal	24 A conforme a EN/IEC 60947-7-1 22 A conforme a ATEX Exe II Ex II 2 GD 20 A cURus 20 A CSA
Material	Poliamida 6/6: caja aislante Aleación de cobre: conector y tornillo Aleación de cobre: enlace de conexión Acero al cromo-níquel: resorte
Pérdida dieléctrica	0,01 a 1 MHz conforme a IEC 60250 0,01 a 1 MHz conforme a VDE 0303-T4
Constante dieléctrica	3,7 a 1 MHz
Resistividad	10000 MΩ.M conforme a IEC 60093 10000 MΩ.m conforme a VDE 0303-T30
Resistencia superficial	1000 GOhm conforme a IEC 60093 1000 GOhm conforme a VDE 0303-T30

Resistencia a la fluencia	500 CTI (> 400 kB) conforme a IEC 60093 500 CTI (> 400 kB) conforme a VDE 0303-T30
Retardancia al fuego	V0, espesor0,8 mm conforme a UL 94
Peso del producto	8,2 g
Rango de compatibilidad	Prisma G Prisma P Prisma PH Prisma Paquete Espacial Kaedra Pragma TeSys Thalassa Thalassa TBP Thalassa Thalassa TBS
Compatibilidad del producto	Cajas espaciales

Entorno

Certificaciones de Producto	LR[RETURN]EAC[RETURN]VDE[RETURN]cURus[RETURN]DNV[RETURN]CSA[RETURN]IEC-Ex[RETURN]ATEX[RETURN]GL
Resistencia dieléctrica	1000 V conforme a IEC 60243-1
Temperatura ambiente	-40…130 °C conforme a IEC 60216-1 -40…130 °C conforme a VDE 0304-T21

Unidades de embalaje

Tipo de unidad de paquete 1	PCE
Número de unidades en el paquete 1	1
Paquete 1 Altura	0,700 cm
Paquete 1 Ancho	4,800 cm
Paquete 1 Longitud	4,800 cm
Paquete 1 Peso	7,000 g
Tipo de unidad de paquete 2	BB1
Número de unidades en el paquete 2	50
Paquete 2 Altura	5,500 cm
Paquete 2 Ancho	6,000 cm
Paquete 2 Longitud	27,000 cm
Paquete 2 Peso	398,000 g
Tipo de unidad de paquete 3	P06
Número de unidades en el paquete 3	12100
Paquete 3 Altura	75,000 cm
Paquete 3 Ancho	60,000 cm
Paquete 3 Longitud	80,000 cm
Paquete 3 Peso	108,832 kg

Sostenibilidad de la oferta

Estado de oferta sostenible	Producto verde premium
Reglamento REACh	Declaración De REACh
Directiva RoHS UE	Compatible con las excepciones
Sin mercurio	Sí
Normativa de RoHS China	Declaración RoHS China
Información sobre exenciones de RoHS	Sí
Comunicación ambiental	Perfil Ambiental Del Producto
Perfil de circularidad	No se necesitan operaciones de reciclaje específicas
RAEE	En el mercado de la Unión Europea, el producto debe desecharse de acuerdo con un sistema de recolección de residuos específico y nunca terminar en un contenedor de basura.
Presencia de halógenos	Producto con contenido plástico sin halógenos