Panasonic

02/04/2013

Panasonic automation products

Panasonic offers a broad spectrum of products for all automation tasks, sensors, PLCs, HMIs, Servo Drives and FA Components. Along with our service philosophy to advise and take care of our customers, products that feature state-of-the-art technology, robust and compact design form the basis of our business.

You can find Panasonic products in almost all areas concerning automation technology. Our core business consists of: machine and equipment building, medical and pharmaceutical industries, building automation, water and waste-water management, environmental technology and energy distribution.
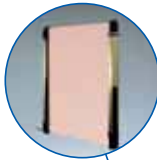
Superior quality from Panasonic

During development, all Panasonic products are subjected to much more severe conditions than they will ever encounter in actual operation. However, such tests help us identify weak spots and eliminate them. This guarantees a long product lifetime in applications. In fact we are so convinced about the quality of our pro-ducts that many come with a 3-year rather than the customary 2-year warranty.

3 Year Warranty

Light curtain
Combines a high standard of safety with productivity.

Laser marker
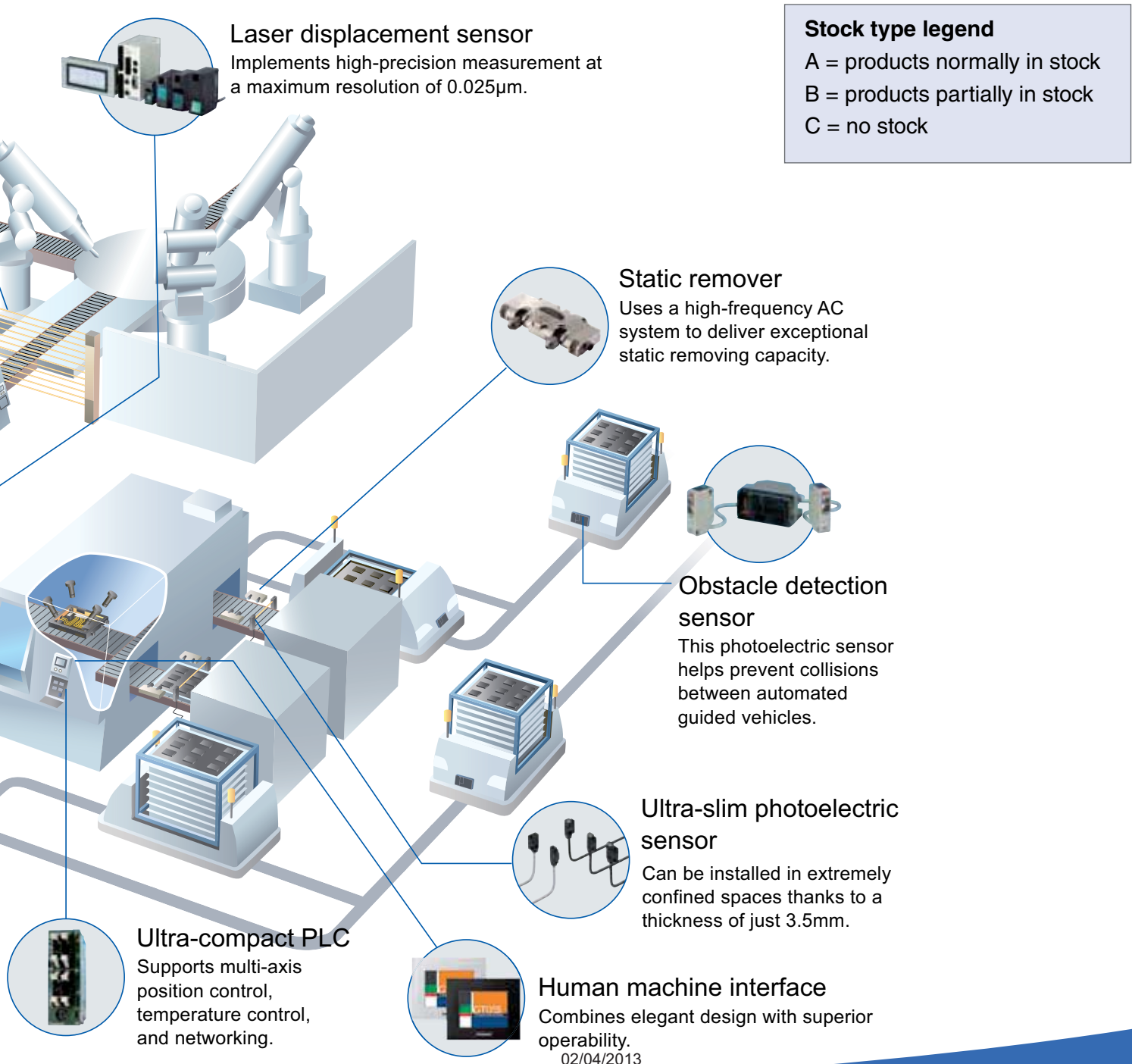Provides high-quality marking and processing at high speeds.

Ecological automation

All together, Panasonic specifies 14 forbidden and hazardous substances. Panasonic's specifications permit less than one-tenth of the level allowed by the RoHS guideline for the 6 most important hazardous substances. Moreover, Panasonic has forbidden the use of another 8 hazardous substances in its products that are not even covered by the RoHS guideline. Hence our own requirements are far more strict than those required by law.

eco ideas

UV curing system
Delivers consistent UV rays to targets using temperature feedback and an LED head.

Wireless unit
Transmits Eco-POWER METER data to the master unit wirelessly.

Eco-POWER METER
Monitors power consumption within a facility and generates tracking data, helping visualize unproductive power use.

Temperature controller
Delivers a range of functionality in a compact package.

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Contents

Laser displacement sensor
Implements high-precision measurement at a maximum resolution of 0.025µm.

Stock type legend
A = products normally in stock
B = products partially in stock
C = no stock

Static remover
Uses a high-frequency AC system to deliver exceptional static removing capacity.

Obstacle detection sensor
This photoelectric sensor helps prevent collisions between automated guided vehicles.

Ultra-slim photoelectric sensor
Can be installed in extremely confined spaces thanks to a thickness of just 3.5mm.

Ultra-compact PLC
Supports multi-axis position control, temperature control, and networking.

Human machine interface
Combines elegant design with superior operability.

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Features

Main functions LT4H

- 8 operation types (see data sheet)
- Time range: 0.001s to 999.9h
- Operating voltage: 12V DC - 24V DC, 24VAC/DC, 100VAC - 240VAC
- Relay output: 5A / 250VAC (resistive load)
- Transistor output: 100mA / 30V DC
- Protection: IP66 front
- Terminal: pin type / screw terminal type
- Dimensions: 48 x 48 x 65.5mm / 48 x 48 x 70mm
- For LT4HW please see online data sheet

Key points

- Bright and easy-to-read display
- 2-color backlight LCD display
- Changeable panel cover, black/white

LT4H/LT4H-W

Digital timer

Part number	Description	Stock type
LT4H240ACJ	LT4H digital timer, 100-240 VAC, relay output, 11 pins	A
LT4H240ACSJ	LT4H digital timer, 100-240 VAC, relay output, screw terminal	A
LT4H24ACJ	LT4H digital timer, 24 VAC, relay output, 11 pins	A
LT4H24SJ	LT4H digital timer, 12-24 V DC, relay output, screw terminal	A
LT4H8240ACJ	LT4H digital timer, 100-240 VAC, relay output, 8 pins	A
LT4HW240ACJ	LT4HW digital timer, 100-240 VAC, relay output, 11 pins	A
LT4HW240ACSJ	LT4HW digital timer, 100-240 VAC, relay output, screw terminal	A
LT4HW24SJ	LT4HW digital timer, 12-24 V DC, relay output, screw terminal	A
LT4H24ACSJ	LT4H digital timer, 24 VAC, relay output, screw terminal	B
LT4H24J	LT4H digital timer, 12-24 V DC, relay output, 11 pins	B
LT4H824ACJ	LT4H digital timer, 24 VAC, relay output, 8 pins	B
LT4HW8240ACJ	LT4HW digital timer, 100-240 VAC, relay output, 8 pins	B

Features

Main functions PM4H

- PM4H-A: 8 operation modes
- PM4H-M: 5 operation modes (see data sheet)
- PM4H-S: power-ON delay
- Time range: 0.1s - 500h
- Operating voltage: 12V DC, 24VAC/DC, 100VAC - 240VAC
- Relay output: 5A / 250VAC (resistive load)
- Protection: IP50 or IP65 front
- Terminal: pin type / screw terminal type
- Dimensions: 48 x 48 x 62.5mm / 48 x 48 x 66.5mm
- For PM4HW please see online data sheet

Key points

- Easy setting
- Easy-to-read analog setting
- Changeable panel cover, black/white

PM4H / PM4H-W

Analog timer

Part number	Description	Stock type
PM4HMH24J	PM4H-M multi-range timer, 24 VAC/DC, pin type, IP50	A
PM4HMHAC240J	PM4H-M multi-range timer, 100-240 VAC, pin type, IP50	A
PM4HSH24J	PM4H-S multi-range timer, 24 VAC/DC, pin type, IP50	A
PM4HSHAC240J	PM4H-S multi-range timer, 100-240 VAC, pin type, IP50	A
PM4HWH24J	PM4H-W twin timer, 24 VAC/DC, pin type, IP50	A
PM4HWHAC240J	PM4H-W twin timer, 100-240 VAC, pin type, IP50	A
PM4HAH24SWJ	PM4H-A multi-range timer, 24 VAC/DC, screw type, IP65	B
PM4HAH24WJ	PM4H-A multi-range timer, 24 VAC/DC, pin type, IP65	B
PM4HAHAC240SJ	PM4H-A multi-range timer, 100-240 VAC, screw type, IP50	B
PM4HAHAC240WJ	PM4H-A multi-range timer, 100-240 VAC, pin type, IP65	B
PM4HMHAC240SWJ	PM4H-M multi-range timer, 100-240 VAC, screw type, IP65	B
PM4HSH24SJ	PM4H-S multi-range timer, 24 VAC/DC, screw type, IP50	B

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S1DXM
Miniature multi-range timer

Features

Main functions

- S1DXM-A: Power ON-delay operation
- S1DXM-M: 4 operation modes
- 4 different time ranges: 0.05s to 10h
- Output types: Timed-out 2 form C, timed-out 4 form C
- Operating voltage range: 12, 24V DC as well as 24V, 110-120V, 200-220V, 220-240VAC
- Dimensions: 22.1x 28.5x52.7mm
- Terminal: pin type / solder terminal
- Protection degree IP40 (IP50 with protective cover)

Key points

- S1DXM-M multifunctional
- Useable with HJ relay terminal socket
- Space-saving design
- Easy and safe handling
- Wide time range
- Settings adjustable on front panel

Part number	Description	Stock type
S1DXMA2C10MDC24V	Multi-range timer, 0.05s - 10min, 24V DC	B
S1DXMM2C30MDC24V	Multi-range timer, 0.2s - 30min, 24V DC	B
S1DXMA2C10MAC220V	Multi-range timer, 0.05s - 10min, 220VAC	C
S1DXMM2C30MAC24V	Multi-range timer, 0.2s - 30min, 24VAC	C
S1DXMM2C10MDC24V	Multi-range timer, 0.05s - 10min, 24V DC	C
S1DXMM4C10HAC240V	Multi-range timer, 0.05min - 10h, 240VAC	C
S1DXMA2C60MAC24V	Multi-range timer, 0.5s - 60min, 24VAC	C
S1DXMM2C60MAC24V	Multi-range timer, 0.5s - 60min, 24VAC	C
S1DXMM2C30MAC240V	Multi-range timer, 0.2s - 30min, 240VAC	C
S1DXMM2C10HDC24V	Multi-range timer, 0.05min - 10h, 24V DC	C
S1DXMA2C60MAC220V	Multi-range timer, 0.5s - 60min, 220VAC	C
S1DXMA2C60MDC24V	Multi-range timer, 0.5s - 60min, 24V DC	C

LC2H
Digital counter

Features

Main functions

- Counter range: 8 digits
- Operating voltage: 24V DC (preset type)
- Transistor output: 100mA, 30V DC PNP/NPN (preset type)
- Input signals: non-voltage or open collector
- Dimensions: see data sheet

Key points

- Industry first, bright, 2-color backlight
- Counting speed switchable between 30Hz and 5kHz
- Operation modes:
    - addition / subtraction
    - with reset
    - preset value setting

Part number	Description	Stock type
LC2HF2KKJ	LC2H counter, counting speed 2kHz/30Hz, standard type	A
LC2HPFEWB24VJ	LC2H counter, counting speed 5kHz/30kHz, preset counter	A
LC2HFDL2KKJ	LC2H counter, counting speed 2kHz/30Hz, standard type, voltage input	B
LC2HFE2KKJ	LC2H counter, counting speed 2kHz/30Hz, standard type	B
LC2HFEDL2KKJ	LC2H counter, counting speed 2kHz/30kHz, standard type	B
LC2HFFV30J	LC2H counter, counting speed 30Hz, standard type	B
LC2HC2KNJ	LC2H counter, counting speed 2kHz, PC board type	C

LC4H/LC4H-W

Digital counter

Features

Main functions

- Operation modes: 5 input modes (see data sheet)
- Counter range: 4 digits or 6 digits
- Counting speed: 30Hz or 5kHz
- Operating voltage: 12V DC - 24V DC, 24VAC/DC, 100VAC - 240VAC
- Relay output: 5A / 250VAC (resistive load)
- Transistor output: 100mA / 30VDC
- Protection: IP66
- Terminal: pin type / screw terminal type
- Dimensions: 48x48x64.5mm / 48x48x70.1mm

Key points LC4H

- Bright & easy-to-read display
- Easy to use
- Changeable panel cover, black/white

Key points LC4H-W

- Two-stage presetting (upper and lower limits)
- Two outputs
- Changeable panel cover, black/white

Part number	Description	Stock type
LC4HR4240ACJ	LC4H electronic counter, 100-240 VAC, 4 digits, 11 pins	A
LC4HR4240ACSJ	LC4H electronic counter, 100-240 VAC, 4 digits, screw	A
LC4HR424ACJ	LC4H electronic counter, 24 VAC, 4 digits, 11 pins	A
LC4HR424J	LC4H electronic counter, 12-24 V DC, 4 digits, 11 pins	A
LC4HR424SJ	LC4H electronic counter, 12-24 V DC, 4 digits, screw	A
LC4HR6240ACJ	LC4H electronic counter, 100-240 VAC, 6 digits, 11 pins	A
LC4HR6240ACSJ	LC4H electronic counter, 100-240 VAC, 6 digits, screw	A
LC4HR624ACJ	LC4H electronic counter, 24 VAC, 6 digits, 11 pins	A
LC4HR624SJ	LC4H electronic counter, 24 V DC, 6 digits, screw	A
LC4HR424ACSJ	LC4H electronic counter, 24 VAC, 4 digits, screw	B
LC4HR624ACSJ	LC4H electronic counter, 24 VAC, 6 digits, 11 pins	B
LC4HR624J	LC4H electronic counter, 12-24 V DC, 6 digits, 11 pins	B

LC4H-S

Digital counter

Features

Main functions

- Operation modes: 5 input modes (see data sheet)
- Counter range: 4 digits or 6 digits
- Counting speed: 30Hz or 5kHz
- Operating voltage: 12V DC - 24V DC, 24VAC/DC, 100VAC - 240VAC
- Relay output: 5A / 250VAC (resistive load)
- Transistor output: 100mA / 30V DC
- Protection: IP66
- Terminal: pin type / screw terminal type
- Dimensions: 48x48x64.5mm / 48x48x70.1mm

Key points

- Scale factor
- 12V DC power supply to connect photoelectric sensors, proximity switches or encoders (at 240VAC types)

- Bright and easy-to-read display
- Bright, two-color backlight LCD display
- Changeable panel cover, black/white

Part number	Description	Stock type
LC4HPSVR4240ACJ	LC4H electronic counter, 100-240 VAC, 4 digits, scale factor, 11pins	B
LC4HPSVR4240ACSJ	LC4H electronic counter, 100-240 VAC, 4 digits, scale factor, screw	B
LC4HPSVR6240ACJ	LC4H electronic counter, 100-240 VAC, 6 digits, scale factor, 11pins	A
LC4HPSVR6240ACSJ	LC4H electronic counter, 100-240 VAC, 6 digits, scale factor, screw	A
LC4HSR624SJ	LC4H electronic counter, 12-24 V DC, 6 digits, scale factor, screw	B
LC4HST424SJ	LC4H electronic counter, 12-24 V DC, 4 digits, scale factor, screw	B
LC4HSVR424SJ	LC4H electronic counter, 12-24 V DC, 4 digits, scale factor, screw	B

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LH2H

Digital hour meter

Features

Main functions

- Operation voltage: built-in battery; 4.5V DC - 30V DC, 24VAC - 240VAC
- Output: no output (standard type)
- Display: 7 digits; day / hour; hour; hour / min. / sec.
- Battery life: 10 years
- Reset: yes / no (standard type)
- Dimensions: 48 x 24 x 54.4mm

Key points

- Industry first, bright, 2-color back light
- Easy-to-read display
- Battery replacement easy

Part number	Description	Stock type
LH2HFDHKJ	LH2H hour meter, standard type	A
LH2HFDHKDLBJ	LH2H hour meter, backlight type	B
LH2HFDHKDLJ	LH2H hour meter, standard type	B
LH2HPFEWDHKB24VJ	LH2H hour meter, preset type	C
LH2HPFEWHMKB24VJ	LH2H hour meter, preset type	C

Safety components

MAC-I limit switches

NEW!

Features

Main functions

- Visible operation
- Able to switch strong currents (10A conventional thermal current)
- Precise operating points (consistency)
- Immune to electromagnetic disturbances
- Electrically separated contacts
- N.C. contacts with positive opening operation
- Extremely compact with optimal air cooling

Key points

- Diversity of contact blocks and electrical connection
- Resistant polymeric housing
- Robust metal, aluminium housing in various series

Features

KW1M/KW1M-H
Eco-POWER METER

Main functions

- Screw and DIN-rail installation possible
- Integrated RS485 interface (Modbus RTU/MEWTOCOL)
- Automatic logging of measurement data at numerous selectable intervals (can be saved on SD card)
- Diverse alarm functions, e.g. when current consumption levels are exceeded
- Calendar function
- Suited for measuring 3-phase currents of up to 400VAC
- Display of calculated CO_2 use
- Integrated pulse counter and hour meter
- Pulse output
- Free software that allows you to display the most important measurement values

Key points

- Monitors and displays the most important electrical parameters:
  - Instantaneous power
  - Energy consumption
  - Current
  - Voltage
  - Power factor
  - Frequency, etc.

Part number	Description	Stock type
AKW1111	KW1M Eco-POWER METER, kW, kWh, MWh, A, V, cos phi, Hz, RS485, MEWTOCOL/MODBUS (RTU), screw connection, DIN-rail and screw mounted type, 100/200/400VAC, 1/3-phase measurement	A
AKW1121	KW1M Eco-POWER METER, kW, kWh, MWh, A, V, cos phi, Hz, RS485, MEWTOCOL/MODBUS (RTU), screw connection, DIN-rail and screw mounted type, SD card slot, 100/200/400VAC, 1/3-phase measurement	B

Features

KW2G
Eco-POWER METER

Main functions

- Up to 8 circuits for 1-phase, 3-wire and 3-phase, 3-wire systems, or 16 circuits for 1-phase, 2-wire systems
- Main unit can display measured values for both itself and expansion units
- Easy expansion: Eliminate excess wiring by using up to seven expansion units to add the required number of CT inputs for your application
- Quick installation

Key points

- Measure energy produced and consumed
- USB port for easy PC connection
- Simultaneous measurement of power and pulse input

Part number	Description	Stock type
AKW2010G	KW2G DIN dimensioned Eco-POWER METER, with USB port	B
AKW2110G	KW2G expansion unit	A
AKW2152G	KW2G expansion unit, pulse input type	C
AKW2182G	KW2G expansion unit, analog input type	C

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Features

KW8M/KW8115
Eco-POWER METER

Main functions

- High voltage input type for direct measurement of 400V loads
- Three-phase, four-wire system compatibility
  - Data log function (AKW8111H)
  - Direct input for secondary side of 1A/5A CT (AKW8115)
  - Dedicated CTs are no longer required.
- Integrated counter & hour meter function
- Up to 99 Eco-POWER METERs can be connected to one master PLC

Key points

- Network compatibility
  - Modbus
  - RS485
  - MEWTOCOL (Panasonic proprietary network protocol)

Part number	Description	Stock type
AKW8111	KW8M Eco-POWER METER, screw type, dedicated CT type, kW/h, A, V, up to 99 units via RS485 connectable, 230V AC, 1/3-phase measurement	C
AKW8111H	AKW8111H Eco-POWER METER	C
AKW8115	KW8M Eco-POWER METER, three-phase, four wire system,(1A/5A CT Input type)	B

Current transformers

	Clamp-on type				Through type		
Item	AKW4801C	AKW4802C	AKW4803C	AKW4804C	AKW4506C	AKW4507C	AKW4508C
Primary side rated current	5A/50A	100A	250A	400A	50A/100A	250A/400A	600A
Secondary side rated current	1.67mA/16.7mA	33.3mA	125mA	200mA	16.7mA/33.3mA	125mA/200mA	200mA
Winding (turns)	3000	3000	2000	2000	3000	2000	3000
Ratio error	±2.0% F.S.				±1.0% F.S.		
Through hole	ø10	ø16	ø24	ø36	ø17	ø36	
Breakdown voltage	1000V AC/min		2000V AC/min		1000V AC/min	2000V AC/min	
Insulation resistance	Min. 100MΩ (at 500V DC)						
Functional vibration resistance	10 to 55Hz (1 cycle/min), single amplitude: 0.15mm (10min on 3 axes)						
Vibration resistance	10 to 55Hz (1 cycle/min), single amplitude: 0.375mm (1h on 3 axes)						
Functional shock resistance	Min. 98m/s^2 (4 times on 3 axes)						
Shock resistance	Min. 294m/s^2 (5 times on 3 axes)						
Output protection level	± 7.5V with clamp element		± 3.0V with clamp element		± 7.5V with clamp element	± 3.0V with clamp element	
Permissible clamping frequency	Approx. 100 times				-		
Ambient temperature range	−10°C to +50°C (without frost and non-condensing)						
Storage temperature	−20°C to +60°C (without frost and non-condensing)						
Ambient humidity	35 to 85% RH (at 20°C non-condensing)				35 to 80% RH (at 20°C non-condensing)		
Weight (trunk cable included)	Approx. 60g	Approx. 90g	Approx. 200g	Approx. 295g	Approx. 70g	Approx. 200g	Approx. 215g

KT4/KT4H/KT4B
Temperature controller

Features

Main functions

- 1/16 DIN dimensioned temperature controller
- Panel-mounted type
- 2nd optional alarm output
- IP66 waterproof (frontside if panel mounted)
- Heating and cooling control with 2nd optional control output (non-contact voltage output)
- MEWTOCOL communication

Part number	Description	Stock type
AKT4111100J	KT4 temperature controller, 100-240 V AC, relay out, 1 alarm out	A
AKT4112100J	KT4 temperature controller, 100-240 V AC, transistor out, 1 alarm out	A
AKT4211100J	KT4 temperature controller, 24 VAC/DC, relay out, 1 alarm out	A
AKT4212100J	KT4 temperature controller, 24 V AC/DC, transistor out, 1 alarm out	A
AKT4113100J	KT4 temperature controller, 100-240 V AC, DC current out, 1 alarm out	B
AKT4212140J	KT4 temperature controller, 24 V AC/DC, transistor out, 1 alarm out, heating/cooling	B

Key points KT4

- Dimensions 48 x 48 x 95mm (WxHxD)

Part number	Description	Stock type
AKT4B111100	KT4B temperature controller, 100-240 V AC, relay out, 1 alarm out	C
AKT4B1121002	KT4B temperature controller, 100-240 V AC, transistor out, 1 alarm out, contact input	C

Key points KT4H/KT4B

- Dimensions 48 x 48 x 56 (WxHxD)
- 11-segment display with 3 colors for PV
- 4 set values for external selection
- Tool port as standard
- Heater burn-out alarm supports 3-phase heaters

Part number	Description	Stock type
AKT4H111200	KT4H temperature controller, digital, 1x relay, 2x alarm, 240VAC	A
AKT4H111100	KT4H temperature controller, 240 V AC, relay output, 1 alarm output	B
AKT4H1111002	KT4H temperature controller, 240 V AC, relay output, 1 alarm output, contact input	B
AKT4H1112001	KT4H temperature controller, 240 V AC, relay output, 2 alarm output + RS485	B
AKT4H113200	KT4H temperature controller, 100 - 240 V AC, DC output, alarm output	B
AKT4H212200	KT4H temperature controller, 24V DC, transistor output, 2 alarm output	B
AKT4H111110	KT4H temp. ctrl., 100-240 V AC, relay out, 1 alarm out, heating/cooling control relay out	C
AKT4H112200	KT4H temperature controller, digital, 1x transistor, 2x alarm, 240V AC	C
AKT4H211100	KT4H temperature controller, 24 VAC/DC, relay output, 1 alarm output	C

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KT7

Temperature controller

Features

Main functions

- Dimensions 22.5 x 75 x 100mm (WxHxD)
- Front screw terminals
- DIN-rail mounting type
- Alarm output
- Analog value converter function

Part number	Description	Stock type
AKT7111100J	KT7 temperature controller, 100-240 VAC, relay out, alarm out	A
AKT7211100J	KT7 temperature controller, 24 VAC/DC, relay out, alarm out	B
AKT7212100J	KT7 temperature controller, 24 VAC/DC, transistor out, alarm out	B
AKT71121001J	KT7 temperature controller, 100-240 VAC, transistor out, alarm out, RS485	C
AKT7112100J	KT7 temperature controller, 100-240 VAC, transistor out, alarm out	C
AKT7213100	KT7 temperature controller, 24 VAC/DC, DC current out, alarm out	C

KT9

Temperature controller

Features

Main functions

- 1/4 DIN dimensioned temperature controller
- Dimensions: 96 x 96 x 98.5mm (WxHxD)
- Panel-mounted type
- 2 sets of values possible (externally selectable)
- 2nd optional alarm output
- Heating and cooling control with 2nd optional control output (relay, non-contact voltage or current)

Part number	Description	Stock type
AKT9111100J	KT9 temperature controller, 100-240 VAC, relay out, 1 alarm out	B
AKT9111110J	KT9 temperature controller, 100-240 VAC, relay out, 1 alarm out, heat-/cooling	B
AKT9211100J	KT9 temperature controller, 24 VAC/DC, relay out, 1 alarm out	B
AKT9111120	KT9 temperature controller, 100-240VAC, relay out, alarm out	C
AKT9112100J	KT9 temperature controller, 100-240 VAC, transistor out, 1 alarm out	C

GX-M
Cylindrical inductive proximity sensors

Features

Main functions

- Size: M8, M12, M18, M30
- Cable or connectivity type
- IP68 degree of protection

Accessories

- Connection with cable 2m or 5m

Part number	Type	Sensing range	Output	Supply voltage	NO/NC*	Cable/ connector	Stock type
GX-M8A-P	Proximity sensor, M8, shielded	1,5mm	PNP	12 to 24V DC	NO	Cable 2m	C
GX-M12A-P	Proximity sensor, M12, shielded	2mm	PNP	12 to 24V DC	NO	Cable 2m	C
GX-M12A-P-Z	Proximity sensor, M12, shielded	2mm	PNP	12 to 24V DC	NO	M12	C
GX-M12B-P	Proximity sensor, M12, shielded	2mm	PNP	12 to 24V DC	NC	Cable 2m	C
GX-M12B-P-Z	Proximity sensor, M12, shielded	2mm	PNP	12 to 24V DC	NC	M12	C
GX-M18A-P	Proximity sensor, M18, shielded	5mm	PNP	12 to 24V DC	NO	Cable 2m	C
GX-M18A-P-Z	Proximity sensor, M18, shielded	5mm	PNP	12 to 24V DC	NO	M12	C
GX-M18B-P	Proximity sensor, M18, shielded	5mm	PNP	12 to 24V DC	NC	Cable 2m	C
GX-M18B-P-Z	Proximity sensor, M18, shielded	5mm	PNP	12 to 24V DC	NC	M12	C
GX-M30A-P	Proximity sensor, M30,shielded	10mm	PNP	12 to 24V DC	NO	Cable 2m	C
GX-M30A-P-Z	Proximity sensor, M30, shielded	10mm	PNP	12 to 24V DC	NO	M12	C
GX-M30B-P	Proximity sensor, M30 shielded	10mm	PNP	12 to 24V DC	NC	Cable 2m	C
GX-M30B-P-Z	Proximity sensor, M30, shielded	10mm	PNP	12 to 24V DC	NC	M12	C

*NO = normally open, NC = normally closed

GX-F/H
Rectangular-shaped, inductive proximity sensors
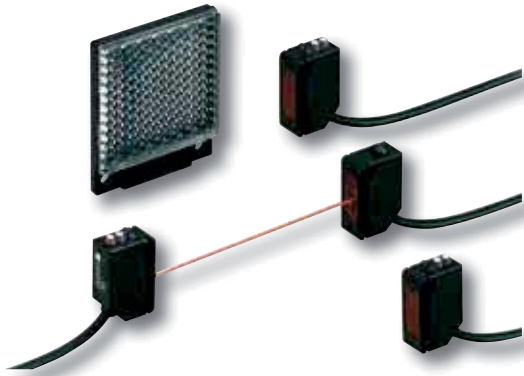
Features

Main functions

- Built-in amplifier
- Mutual interference prevention
- Oil and water resistant
- Easy to see indicator
- Industry No. 1 in stable sensing

Accessories

- Cable with connector 2m or 5m

Part number	Type	Sensing range	Output	Supply voltage	NO/NC*	Cable/con- nector	Stock type
GX-F6A-P	Proximity sensor, rectangular shape	1.6mm	PNP	12 to 24V DC	NO	Cable 1m	C
GX-F8A-P	Proximity sensor, rectangular shape	2.5mm	PNP	12 to 24V DC	NO	Cable 1m	B
GX-H8A-P	Proximity sensor, rectangular shape	2.5mm	PNP	12 to 24V DC	NO	Cable 1m	B
GX-F12A-P	Proximity sensor, rectangular shape	4mm	PNP	12 to 24V DC	NO	Cable 1m	A
GX-F12B-P	Proximity sensor, rectangular shape	4mm	PNP	12 to 24V DC	NC	Cable 1m	B
GX-H12A-P	Proximity sensor, rectangular shape	4mm	PNP	12 to 24V DC	NO	Cable 1m	B
GX-H12B-P	Proximity sensor, rectangular shape	4mm	PNP	12 to 24V DC	NC	Cable 1m	B
GX-F15A-P	Proximity sensor, rectangular shape	5mm	PNP	12 to 24V DC	NO	Cable 1m	C

*NO = normally open, NC = normally closed

02/04/2013

CX-400
Compact photoelectric sensors

Features

Main functions CX-400

- Huge variety
- 5-turn adjuster
- Low hysteresis
- Light-ON/dark-ON modes
- IP67 degree of protection
- Short-circuit protection

Accessories

- Mounting brackets
- M8 connector with 2m or 5m cable
- Slit masks
- Polarizing filter

Part number	Type	Sensing range	Output	Supply voltage	Light-ON/ Dark-ON	Cable/ connector	Stock type
CX411P	Thru-beam	10m	PNP	12 to 24V DC	Switch-able	Cable 2m	A
CX411PZ	Thru-beam	10m	PNP	12 to 24V DC	Switch-able	M8	A
CX412P	Thru-beam	15m	PNP	12 to 24V DC	Switch-able	Cable 2m	A
CX412PZ	Thru-beam	15m	PNP	12 to 24V DC	Switch-able	M8	B
CX421P	Diffuse reflective	30cm	PNP	12 to 24V DC	Switch-able	Cable 2m	A
CX421PZ	Diffuse reflective	30cm	PNP	12 to 24V DC	Switch-able	M8	A
CX422P	Diffuse reflective	80cm	PNP	12 to 24V DC	Switch-able	Cable 2m	A
CX422PZ	Diffuse reflective	80cm	PNP	12 to 24V DC	Switch-able	M8	B
CX423P	Diffuse reflective	7-20cm	PNP	12 to 24V DC	Switch-able	Cable 2m	A
CX423PZ	Diffuse reflective	7-20cm	PNP	12 to 24V DC	Switch-able	M8	B
CX481P	Retroreflective for transparent objects	50cm	PNP	12 to 24V DC	Switch-able	Cable 2m	B
CX481PZ	Retroreflective for transparent objects	50cm	PNP	12 to 24V DC	Switch-able	M8	B
CX482PZ	Retroreflective for transparent objects	0.1-2m	PNP	12 to 24V DC	Switch-able	M8	B
CX491P	Retroreflective polarized	3m	PNP	12 to 24V DC	Switch-able	Cable 2m	A
CX491PZ	Retroreflective polarized	3m	PNP	12 to 24V DC	Switch-able	M8	A
CX493P	Retroreflective	5m	PNP	12 to 24V DC	Switch-able	Cable 2m	B
CX493PZ	Retroreflective	5m	PNP	12 to 24V DC	Switch-able	M8	B

Main functions CX-44x

- Fore- and background suppression
- Visible spot
- 5-turn adjuster
- Low hysteresis
- Light-ON/dark-ON modes
- Automatic cross talk suppression
- IP67 degree of protection
- Short-circuit protection

Accessories

- Mounting brackets
- M8 connector with 2m or 5m cable

Part number	Type	Sensing range	Output	Supply voltage	Light-ON/ Dark-ON	Cable/ connector	Stock type
CX441P	Background/Fore-ground suppression	2-50mm	PNP	12 to 24V DC	Switch-able	Cable 2m	B
CX441PZ	Background/Fore-ground suppression	2-50mm	PNP	12 to 24V DC	Switch-able	M8	B
CX442P	Background/Fore-ground suppression	2-30mm	PNP	12 to 24V DC	Switch-able	Cable 2m	A
CX442PZ	Background/Fore-ground suppression	2-30mm	PNP	12 to 24V DC	Switch-able	M8	A
CX444P	Background/Fore-ground suppression	1.5-10cm	PNP	12 to 24V DC	Switch-able	Cable 2m	B
CX444PZ	Background/Fore-ground suppression	1.5-10cm	PNP	12 to 24V DC	Switch-able	M8	A

CY-100

Cylindric optical sensors

Features

Main functions

- Standard or side view types
- Cable or M12 connection
- Available as thru-beam, retroreflective (with and without polarization filters) and diffuse reflective types
- Diffuse reflective types include sensitivity adjuster
- Thru-beam types include test input

Accessories

- Various reflectors
- Variety of mounting brackets
- For M12 connector types: 2m or 5m connection cable

Part number	Type	Sensing range	Output	Supply voltage	Light-ON/ Dark-ON	Cable/ connector	Stock type
CY-111A-P	Thru-beam, front sensing	15m	PNP	12 to 24V DC	Light-ON	Cable 2m	C
CY-111A-P-Z	Thru-beam, front sensing	15m	PNP	12 to 24V DC	Light-ON	M12	C
CY-111B-P	Thru-beam, front sensing	15m	PNP	12 to 24V DC	Dark-ON	Cable 2m	B
CY-111B-P-Z	Thru-beam, front sensing	15m	PNP	12 to 24V DC	Dark-ON	M12	B
CY-111VA-P	Thru-beam, side sensing	15m	PNP	12 to 24V DC	Light-ON	Cable 2m	C
CY-111VA-P-Z	Thru-beam, side sensing	15m	PNP	12 to 24V DC	Light-ON	M12	C
CY-111VB-P	Thru-beam, side sensing	15m	PNP	12 to 24V DC	Dark-ON	Cable 2m	C
CY-111VB-P-Z	Thru-beam, side sensing	15m	PNP	12 to 24V DC	Dark-ON	M12	C
CY-121A-P	Diffuse reflective, front sensing	10cm	PNP	12 to 24V DC	Light-ON	Cable 2m	B
CY-121A-P-Z	Diffuse reflective, front sensing	10cm	PNP	12 to 24V DC	Light-ON	M12	C
CY-121B-P	Diffuse reflective, front sensing	10cm	PNP	12 to 24V DC	Dark-ON	Cable 2m	C
CY-121B-P-Z	Diffuse reflective, front sensing	10cm	PNP	12 to 24V DC	Dark-ON	M12	C
CY-121VA-P	Diffuse reflective, side sensing	10cm	PNP	12 to 24V DC	Light-ON	Cable 2m	C
CY-121VA-P-Z	Diffuse reflective, side sensing	10cm	PNP	12 to 24V DC	Light-ON	M12	C
CY-122A-P	Diffuse reflective, front sensing	60cm	PNP	12 to 24V DC	Light-ON	Cable 2m	B
CY-122A-P-Z	Diffuse reflective, front sensing	60cm	PNP	12 to 24V DC	Light-ON	M12	B
CY-192A-P-Y	Retroreflective, front sensing	4m	PNP	12 to 24V DC	Light-ON	Cable 2m	B
CY-192B-P-Y	Retroreflective, front sensing	4m	PNP	12 to 24V DC	Dark-ON	Cable 2m	B
CY-192B-P-Z-Y	Retroreflective, front sensing	4m	PNP	12 to 24V DC	Dark-ON	M12	B

EX-10

Ultra slim photoelectric sensors

Features

Main functions

- Response time only 0.5ms
- Front sensing or side sensing versions
- New: up to 35% less power consumption
- New: improved ambient light immunity
- Fixed focus reflecting types (diffuse light type) available
- 2 indicator LEDs
- Sealed to IP67

Accessories

- Mounting brackets
- Slit masks

Part number	Type	Sensing range	Output	Supply voltage	Light-ON/ Dark-ON	Cable/ connector	Stock type
EX11APN	Thru-beam, front sensing	150mm	PNP	12 to 24V DC	Light-ON	Cable 2m	B
EX11BPN	Thru-beam, front sensing	150mm	PNP	12 to 24V DC	Dark-ON	Cable 2m	A
EX11EAPN	Thru-beam, side sensing	150mm	PNP	12 to 24V DC	Light-ON	Cable 2m	B
EX11EBPN	Thru-beam, side sensing	150mm	PNP	12 to 24V DC	Dark-ON	Cable 2m	A
EX13APN	Thru-beam, front sensing	500mm	PNP	12 to 24V DC	Light-ON	Cable 2m	A
EX13BPN	Thru-beam, front sensing	500mm	PNP	12 to 24V DC	Dark-ON	Cable 2m	A
EX13EAPN	Thru-beam, side sensing	500mm	PNP	12 to 24V DC	Light-ON	Cable 2m	A
EX13EBPN	Thru-beam, side sensing	500mm	PNP	12 to 24V DC	Dark-ON	Cable 2m	A
EX14APN	Diffuse reflective, convergent, front sensing	2 to 25mm	PNP	12 to 24V DC	Light-ON	Cable 2m	A
EX14BPN	Diffuse reflective, convergent, front sensing	2 to 25mm	PNP	12 to 24V DC	Dark-ON	Cable 2m	A
EX19APN	Thru-beam, front sensing	1m	PNP	12 to 24V DC	Light-ON	Cable 2m	A
EX19BPN	Thru-beam, front sensing	1m	PNP	12 to 24V DC	Dark-ON	Cable 2m	B

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EX-20
Ultra compact photoelectric sensors

Features

Main functions

- Miniature construction
- Response time only 0.5ms
- Red LED
- New: up to 35% less power consumption
- New: improved ambient light immunity
- Adjustable sensitivity
- Thru-beam
- Diffuse reflective
- Sealed to IP67
- 2 indicator LEDs

Accessories

- Slit masks
- Reflectors
- Mounting bracket

Part number	Type	Sensing range	Output	Supply voltage	Light-ON/ Dark-ON	Cable/ connector	Stock type
EX21BPN	Thru-beam, front sensing	1m	PNP	12 to 24V DC	Dark-ON	Cable 2m	B
EX22APN	Diffuse reflective, side sensing	160mm	PNP	12 to 24V DC	Light-ON	Cable 2m	A
EX22BPN	Diffuse reflective, side sensing	160mm	PNP	12 to 24V DC	Dark-ON	Cable 2m	B
EX23PN	Thru-beam, side sensing	2m	PNP	12 to 24V DC	Switchable	Cable 2m	A
EX24APN	Diffuse reflective, convergent, front sensing	2 to 25mm	PNP	12 to 24V DC	Light-ON	Cable 2m	B
EX26APN	Diffuse reflective, convergent, side sensing	6 to 14mm	PNP	12 to 24V DC	Light-ON	Cable 2m	A
EX28APN	Diffuse reflective, side sensing	45 to 115mm	PNP	12 to 24V DC	Light-ON	Cable 2m	A
EX29BPN	Retroreflective, side sensing	30 to 200mm	PNP	12 to 24V DC	Dark-ON	Cable 2m	B

EX-30
Threaded miniature photoelectric sensors

Features

Main functions

- Threaded design (M4 thru-beam type and M6 reflective type)
- Response time only 0.5ms
- New: up to 35% less power consumption
- New: improved ambient light immunity
- Red LED
- Sensitivity can be adjusted (EX-32, EX-33)
- 2-color LED indicator
- IP67 degree of protection
- Light-ON/dark-ON modes (EX-33)

Accessories

- Slit masks
- Sensor mounting bracket

Part number	Type	Sensing range	Output	Supply voltage	Light-ON/ Dark-ON	Cable/ connector	Stock type
EX31APN	Thru-beam	500mm	PNP	12 to 24V DC	Light-ON	Cable 2m	A
EX31BPN	Thru-beam	500mm	PNP	12 to 24V DC	Dark-ON	Cable 2m	A
EX32APN	Diffuse reflective	50mm	PNP	12 to 24V DC	Light-ON	Cable 2m	A
EX32BPN	Diffuse reflective	50mm	PNP	12 to 24V DC	Dark-ON	Cable 2m	C
EX33PN	Thru-beam	800mm	PNP	12 to 24V DC	Switchable	Cable 2m	B

NX-5
Multi voltage photoelectric sensors

Features

Main functions

- Multi voltage type
- Compact design
- Long sensing ranges
- Retroreflective type with polarisation filter
- Thru-beam type with 30m detection range
- Relay output
- Red LED types for easy alignment

Accessories

- Cross talk prevention filter
- Slit mask
- Various reflectors
- Various mounting brackets

Part number	Type	Sensing range	Output	Supply voltage	Light-ON/ Dark-ON	Cable/ connector	Stock type
NX5D700A	Diffuse reflective	700mm	Relay	24 to 240V AC 12 to 240V DC	Light-ON	Cable 2m	A
NX5D700B	Diffuse reflective	700mm	Relay	24 to 240V AC 12 to 240V DC	Dark-ON	Cable 2m	B
NX5M10RA	Thru-beam	10m	Relay	24 to 240V AC 12 to 240V DC	Light-ON	Cable 2m	C
NX5M10RB	Thru-beam	10m	Relay	24 to 240V AC 12 to 240V DC	Dark-ON	Cable 2m	C
NX5M30A	Thru-beam	30m	Relay	24 to 240V AC 12 to 240V DC	Light-ON	Cable 2m	B
NX5M30B	Thru-beam	30m	Relay	24 to 240V AC 12 to 240V DC	Dark-ON	Cable 2m	B
NX5PRVM5A	Retroreflective polarized	5m	Relay	24 to 240V AC 12 to 240V DC	Light-ON	Cable 2m	B
NX5PRVM5B	Retroreflective polarized	5m	Relay	24 to 240V AC 12 to 240V DC	Dark-ON	Cable 2m	B
NX5RM7A	Retroreflective	7m	Relay	24 to 240V AC 12 to 240V DC	Light-ON	Cable 2m	B
NX5RM7B	Retroreflective	7m	Relay	24 to 240V AC 12 to 240V DC	Dark-ON	Cable 2m	C

EQ-30
Background suppression sensors

Features

Main functions

- Triangulation detection principle with 2m sensing range
- Highly independent of object color
- Background suppression
- Automatic cross talk suppression
- Compact design
- Short-circuit protection
- Switchable output operation (detection on/off)
- Mounting accessories
- M12 connector (-J) or cable type

Accessories

- Mounting bracket
- M12 connector type: 2m or 5m cable

Part number	Type	Sensing range	Output	Supply voltage	Light-ON/ Dark-ON	Cable/ connector	Stock type
EQ34PN	Background suppression	2m	PNP	12 to 24V DC	Switchable	Cable 2m	A
EQ34PNJ	Background suppression	2m	PNP	12 to 24V DC	Switchable	M12	A

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EQ-500
Background and foreground suppression sensors

Features

Main functions

- Adjustable long sensing range: 100cm or 250cm
- BGS and FGS function
- Unaffected by color, form or material of an object
- Response time 2ms
- NPN/PNP transistor output
- Compact design H68 x W26 x L68mm
- Timer function (EQ-5#T only)
- Short-circuit proof
- IP67 degree of protection

Accessories

- Sensor mounting bracket
- Foot angled mounting

Part number	Type	Sensing range	Output	Supply voltage	Light-ON/ Dark-ON	Cable/ connector	Stock type
EQ501	Background/Foreground suppression	0.1-2.5m	Relay	24 to 240V AC 12 to 240V DC	Switchable	Screw terminal	A
EQ501T	Background/Foreground suppression, timer	0.1-2.5m	Relay	24 to 240V AC 12 to 240V DC	Switchable	Screw terminal	A
EQ502	Background/Foreground suppression	0.1-1.0m	Relay	24 to 240V AC 12 to 240V DC	Switchable	Screw terminal	A
EQ502T	Background/Foreground suppression, timer	0.1-1.0m	Relay	24 to 240V AC 12 to 240V DC	Switchable	Screw terminal	A
EQ511	Background/Foreground suppression	0.1-2.5m	PNP & NPN	12 to 24V DC	Switchable	Screw terminal	A
EQ511T	Background/Foreground suppression, timer	0.1-2.5m	PNP & NPN	12 to 24V DC	Switchable	Screw terminal	B
EQ512	Background/Foreground suppression	0.1-1.0m	PNP & NPN	12 to 24V DC	Switchable	Screw terminal	A
EQ512T	Background/Foreground suppression, timer	0.1-1.0m	PNP & NPN	12 to 24V DC	Switchable	Screw terminal	B

LX-100
Digital mark sensors

Features

Main functions

- Three different emitting LEDs (red, green, blue)
- High precision coaxial reflective optical system
- High resolution 12-bit A/D converter
- 4-digit digital display
- Teach-in for simple settings (external teaching also possible)
- Timer function (ON/OFF-delay)
- Two inverse outputs (cable type)
- Compact Dimensions
- M12 or cable type
- IP67

Accessories

- For connector types: 2m or 5m cables
- Mounting brackets

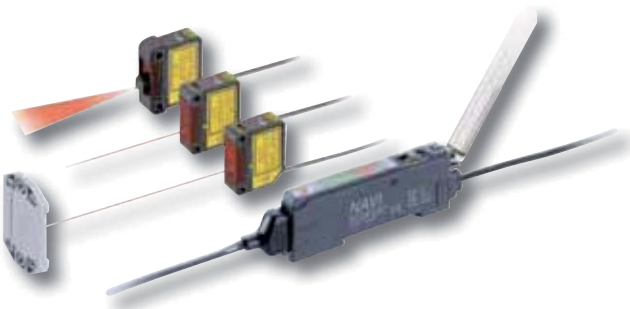| Part number	Type	Sensing range	Output	Supply voltage	Light-ON/ Dark-ON	Cable/ connector	Stock type
LX101P	Color mark sensor, coaxial reflective	10 ±3mm	PNP	12 to 24V DC	Set by teaching	Cable 2m	B
LX101PZ	Color mark sensor, coaxial reflective	10 ±3mm	PNP	12 to 24V DC	Set by teaching	M12	A

Features

Main functions

- Miniature design
- Response time only 0.5ms
- Visible red laser diode
- Sensitivity adjuster
- Available as thru-beam, retroreflective and spot reflective types
- Line spot type
- IP67 degree of protection
- 2 indicator LEDs

Accessories

- Sensor mounting bracket

EX-L200
Laser sensors

Part number	Type	Sensing range	Output	Supply voltage	Light-ON/ Dark-ON	Cable/ connector	Stock type
EX-L211-P	Laser thru beam, spot 6x4mm	1m	PNP	12 to 24V DC	Switchable	Cable 2m	B
EX-L211-P-J	Laser thru beam, spot 6x4mm	1m	PNP	12 to 24V DC	Switchable	Pigtailed M8	C
EX-L212-P	Laser thru beam, spot 8x5.5mm	3m	PNP	12 to 24V DC	Switchable	Cable 2m	C
EX-L212-P-J	Laser thru beam, spot 8x5.5mm	3m	PNP	12 to 24V DC	Switchable	Pigtailed M8	B
EX-L221-P	Laser spot reflective type	45 - 300mm	PNP	12 to 24V DC	Switchable	Cable 2m	B
EX-L221-P-J	Laser spot reflective type	45 - 300mm	PNP	12 to 24V DC	Switchable	Pigtailed M8	B
EX-L261-P	Laser convergent reflective type	20 - 50mm	PNP	12 to 24V DC	Switchable	Cable 2m	B
EX-L261-P-J	Laser convergent reflective type	20 - 50mm	PNP	12 to 24V DC	Switchable	Pigtailed M8	B
EX-L262-P	Laser convergent reflective line type	20 - 70mm	PNP	12 to 24V DC	Switchable	Cable 2m	B
EX-L262-P-J	Laser convergent reflective line type	20 - 70mm	PNP	12 to 24V DC	Switchable	Pigtailed M8	B
EX-L291-P	Laser retroreflective	4m	PNP	12 to 24V DC	Switchable	Cable 2m	C
EX-L291-P-J	Laser retroreflective	4m	PNP	12 to 24V DC	Switchable	Pigtailed M8	B

LS-400
Digital laser sensors

Features

Main functions

- Retroreflective: coaxial lenses with polarized filters
- Reflective types: spot type and line type
- Red light laser diode laser class 1 or 2
- Laser focus and line adjustable
- Ultra-compact dimensions

Accessories

- Mounting bracket
- Lens LSMR1 for line reflection type

Part number	Type	Sensing range	Output	Supply voltage	Light-ON/ Dark-ON	Cable/ connector	Stock type
LS401P	Controller for LS laser heads		2x PNP	12 to 24V DC	Set by teaching	Connector*	B
LS401PC2	Controller for LS laser heads		2x PNP	12 to 24V DC	Set by teaching	Cable 2m	B
LSH21	LS laser head, diffuse reflective spot type	1m					B
LSH22	LS laser head, diffuse reflective line type	1m					A
LSH91	LS laser head, coaxial retroreflective	7m					B

*Connection cable is not supplied with connector type amplifier. Please order it separately: CN74Cx

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FX-100

Digital fiber sensors

Features

Main functions

- One 4-digit green, one 4-digit red LCD display
- Copy settings via wiring
- 3-step setting hierarchy, from basic to advanced
- External input for external adjustment
- No need to connect amplifiers in case interference prevention is requested
- Direct installation possible without bracket or DIN rail
- Commercially available connector simplifies procurement
- Key-lock function
- Light-ON/dark-ON mode set by teaching
- Threshold values can automatically adjust to changes in incident light
- Intensity of emitted light can be reduced automatically to ensure stable sensing

Part number	Type	Sensing range	Output	Supply voltage	Light-ON/ Dark-ON	Cable/ connector	Stock type
FX101PCC2	Fiber amplifier	Depends on fiber used*	PNP	12 to 24V DC	Set by teaching	Cable 2m	A
FX101PZ	Fiber amplifier	Depends on fiber used*	PNP	12 to 24V DC	Set by teaching	M8 connector	A
FX102PCC2	Fiber amplifier, long sensing range	Depends on fiber used*	PNP	12 to 24V DC	Set by teaching	Cable 2m	B
FX102PZ	Fiber amplifier, long sensing range	Depends on fiber used*	PNP	12 to 24V DC	Set by teaching	M8 connector	B

*Please ask for relevant fiber cables!

Accessories

- Various cable lengths: 1, 2, 3, 5m
- End plates
- Protection cover

FX-300

Digital fiber sensors

Features

Main functions

- Long-range sensing made possible with built-in optical lens
- Optical communication function enables data to be copied and saved (up to 16 amplifiers)
- 35µs response time (FX-301HS)
- The amount of light emitted can be selected without needing to change the response time
- 4-digit, 7-segment red LED display and LED indicators
- Only two switches, the large jog switch and the large mode key, are required for operation
- Supply voltage via only one cable for up to 16 amplifiers
- Close mounting is possible for up to four fiber heads
- Reduced intensity mode for transparent objects
- Window comparator with two outputs (FX-305)
- Copy-lock function

Part number	Type	Sensing range	Output	Supply voltage	Light-ON/ Dark-ON	Cable/ connector	Stock type
FX301P	Fiber amplifier	Depends on fiber used*	PNP	12 to 24V DC	Set by teaching	Connector**	A
FX311P	Fiber amplifier, manual setting	Depends on fiber used*	PNP	12 to 24V DC	Switchable	Connector**	A

*Please ask for relevant fiber cables!
**Connection cable is not supplied with connector type amplifier. Please order it separately: CN73Cx

Accessories

- Communication units for CC-Link/EtherCAT/RS485
- Bank selection unit FX-CH2
- PLC connection system SC
- Main and sub cables (1/2/5m)
- End plates

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FX-500

Digital fiber sensors

Features

Main functions

- One 4-digit green, one 4-digit red LCD display
- Copy settings via optical interface
- Decreased variations among amplifiers
- Input for external settings, i.e. threshold value (not available for FX-501)
- Up to 8 settings can be saved and loaded (data bank)
- Logical calculation functions
- Light intensity and gain setting for transparent object detection
- Threshold tracking
- Self-diagnosis output
- Display easy readable at angles of up to 60°
- Superior quality fibers (listed in the FX-500 brochure)

Accessories

- Communication units for CC-Link/EtherCAT/RS485
- Quick connection cables in lengths of 1, 2 or 5m
- End plates
- Protection cover

Part number	Type	Sensing range	Output	Supply voltage	Light-ON/ Dark-ON	Cable/ connector	Stock type
FX-501P	Fiber amplifier	Depends on fiber used*	PNP	12 to 24V DC	Set by teaching	Connec-tor**	A
FX-502P	Fiber amplifier	Depends on fiber used*	2 x PNP	12 to 24V DC	Set by teaching	Connec-tor**	B
FX-505P-C2	Fiber amplifier	Depends on fiber used*	2 x PNP + 4 - 20mA	12 to 24V DC	Set by teaching	Cable 2m	A

* Please ask for relevant fiber cables!
** Connection cable is not supplied with connector type amplifier. Please order it separately: CN73Cx (FX501) or CN74Cx (FX502)

NA1

Area/Picking sensors

Features

Main functions

- 11 emitters and receivers elements in each case (grid spacing 10mm)
- Range of up to 100cm
- Maximum detection field dimensions 10 x 100cm
- Smallest detectable object dimensions: Ø = 13.5mm
- Clearly visible LED indicators (static/flashing)
- Light-ON/dark-ON
- Slim line design (10mm)

Accessories

- Mounting brackets

Part number	Type	Sensing range	Output	Supply voltage	Light-ON/ Dark-ON	Cable/ connector	Stock type
NA15PN	Area sensor, 100mm height	0.1 - 1.2m	PNP	12 to 24V DC	Switchable	Cable 2m	A
NA15PNJ	Area sensor, 100mm height	0.1 - 1.2m	PNP	12 to 24V DC	Switchable	Pigtailed M12	B
NA1PK5PN	Area sensor, 100mm height, long range sensing	0.2 - 3m	PNP	12 to 24V DC	Switchable	Cable 2m	B
NA1PK5PNJ	Area sensor, 100mm height, long range sensing	0.2 - 3m	PNP	12 to 24V DC	Switchable	Pigtailed M12	B

ST4
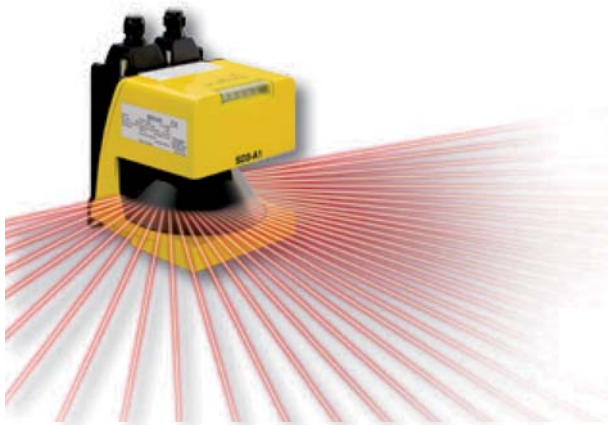### Safety single beam sensors

Features

Main functions

- Series connection of 6 sets of sensor heads to 1 controller
- Compact design
- IP67 degree of protection
- Three muting function patterns
- High-functional type controller
- SIL3, PLe

Accessories

- Extension cables: 1, 3, 5, 7, and 15m

Part number	Type	Sensing range	Output	Supply voltage	Cable/connector	Stock type
ST4-A1-J02	Safety single beam sensor for ST4 controller, SIL3, PLe,	0.1 - 15m			Cable with connector 0.2m	C
ST4-A1-J02V	Safety single beam sensor for ST4 controller, SIL3, PLe, sensitivity adjuster	0.1 - 15m			Cable with connector 0.2m	C
ST4-A1-J1	Safety single beam sensor for ST4 controller, SIL3, PLe	0.1 - 15m			Cable with connector 1.0m	C
ST4-A1-J1V	Safety single beam sensor for ST4 controller, SIL3, PLe, sensitivity adjuster	0.1 - 15m			Cable with connector 1.0m	C
ST4-C11	Controller for ST4 safety sensors, standard type		PNP or NPN switchable (2x OSSD)	24V DC	Terminal blocks	C
ST4-C12EX	Controller for ST4 safety sensors, multifunction type		PNP or NPN switchable (2x OSSD)	24V DC	Terminal blocks	C

SD3
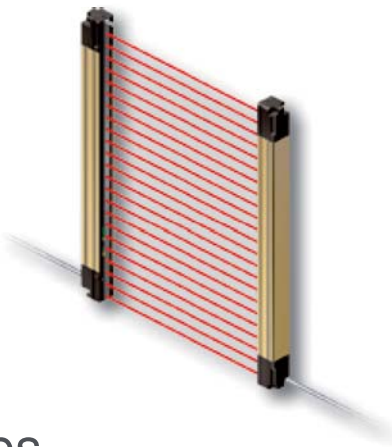### Safety laser scanner

Features

Main functions

- Warning zone, max. radius 15m
- Protection zone, max. radius 4m
- Adjustment of response times enables interference prevention
- Up to 8 freely switchable zone patterns
- Smallest dimensions in its class: W140 × H195 × D135mm
- SIL2, PLd

Accessories

- Configuration plug (optional), handy for storing, recovering and transferring settings
- PC connection cable
- Mounting bracket
- Operation check tool to simulate the digital inputs and monitor the SD3 outputs
- Cleaning set

Part number	Type	Sensing range	Output	Supply voltage	Cable/connector	Stock type
SD3-A1	Safety laser scanner, SIL2, PLd	Protection zone with radius 4m, 190°angle	PNP (2x OSSD)	24V DC	Cable with connector	A

02/04/2013

Features

Main functions SF4B

- Short response time (max. 14ms ON->OFF) for all dimensions
- Protective height corresponds to actual height (no dead zone)
- OSSD1 and OSSD2 switchable for NPN/PNP
- Integrated muting control
- Fixed and floating blanking function
- No interference from extraneous light due to ELCA
- Override
- LED display for beam-axis alignment, which simplifies mounting

Accessories

- Cable for series connection without dead zone
- Sensor mounting bracket
- Slit masks
- Corner mirror

Main functions SF4C

- Large built-in multi-purpose LED indicators
- Auto-interference prevention = ELCA function
- 4 blocks of beam-axis adjustment indicators
- Digital error display
- Output polarity setting
- Fast response time of 7ms for all models
- Various blanking functions
- Manual reset / auto reset
- External device monitor
- New! 2 N.C. safety inputs
- New! Various muting functions, e.g. exit muting control

Accessories

- Extension cables
- Front protection cover

SF4B/SF4C

Safety light curtains

Part number	Type	Sensing range	Protective height	Output	Supply voltage	Cable/ connector	Stock type
SF4B-F23(V2)	Safety light curtain, SIL3, PLe, finger type,	0.3 - 7m	230mm	PNP or NPN switchable (2x OSSD)	24V DC	Connector*	C
SF4B-F31(V2)	Safety light curtain, SIL3, PLe, finger type,	0.3 - 7m	310mm	PNP or NPN switchable (2x OSSD)	24V DC	Connector*	C
SF4B-F39(V2)	Safety light curtain, SIL3, PLe, finger type,	0.3 - 7m	390mm	PNP or NPN switchable (2x OSSD)	24V DC	Connector*	C
SF4B-F47(V2)	Safety light curtain, SIL3, PLe, finger type,	0.3 - 7m	470mm	PNP or NPN switchable (2x OSSD)	24V DC	Connector*	C
SF4B-F95(V2)	Safety light curtain, SIL3, PLe, finger type,	0.3 - 7m	950mm	PNP or NPN switchable (2x OSSD)	24V DC	Connector*	B
SF4B-H12(V2)	Safety light curtain, SIL3, PLe, hand type,	0.3 - 9m	230mm	PNP or NPN switchable (2x OSSD)	24V DC	Connector*	B
SF4B-H16(V2)	Safety light curtain, SIL3, PLe, hand type,	0.3 - 9m	310mm	PNP or NPN switchable (2x OSSD)	24V DC	Connector*	B
SF4B-H20(V2)	Safety light curtain, SIL3, PLe, hand type,	0.3 - 9m	390mm	PNP or NPN switchable (2x OSSD)	24V DC	Connector*	C
SF4B-H24(V2)	Safety light curtain, SIL3, PLe, hand type,	0.3 - 9m	470mm	PNP or NPN switchable (2x OSSD)	24V DC	Connector*	B
SF4B-H28(V2)	Safety light curtain, SIL3, PLe, hand type,	0.3 - 9m	550mm	PNP or NPN switchable (2x OSSD)	24V DC	Connector*	B
SF4B-H32(V2)	Safety light curtain, SIL3, PLe, hand type,	0.3 - 9m	630mm	PNP or NPN switchable (2x OSSD)	24V DC	Connector*	C
SF4B-H36(V2)	Safety light curtain, SIL3, PLe, hand type,	0.3 - 9m	710mm	PNP or NPN switchable (2x OSSD)	24V DC	Connector*	B
SF4B-H40(V2)	Safety light curtain, SIL3, PLe, hand type,	0.3 - 9m	790mm	PNP or NPN switchable (2x OSSD)	24V DC	Connector*	C
SF4B-H48(V2)	Safety light curtain, SIL3, PLe, hand type,	0.3 - 9m	950mm	PNP or NPN switchable (2x OSSD)	24V DC	Connector*	A
SF4B-H56(V2)	Safety light curtain, SIL3, PLe, hand type,	0.3 - 9m	1110mm	PNP or NPN switchable (2x OSSD)	24V DC	Connector*	B
SF4B-H64(V2)	Safety light curtain, SIL3, PLe, hand type,	0.3 - 9m	1270mm	PNP or NPN switchable (2x OSSD)	24V DC	Connector*	C
SF4B-H72(V2)	Safety light curtain, SIL3, PLe, hand type,	0.3 - 7m	1430mm	PNP or NPN switchable (2x OSSD)	24V DC	Connector*	A

Part number	Type	Sensing range	Protective height	Output	Supply voltage	Cable/ connector	Stock type
SF4C-F15	Safety light curtain, SIL3, PLe, finger type,	0.1 - 3m	160mm	PNP or NPN switchable (2x OSSD)	24V DC	Cable 5m	C
SF4C-F23	Safety light curtain, SIL3, PLe, finger type,	0.1 - 3m	240mm	PNP or NPN switchable (2x OSSD)	24V DC	Cable 5m	C
SF4C-F31	Safety light curtain, SIL3, PLe, finger type,	0.1 - 3m	320mm	PNP or NPN switchable (2x OSSD)	24V DC	Cable 5m	C
SF4C-F39	Safety light curtain, SIL3, PLe, finger type,	0.1 - 3m	400mm	PNP or NPN switchable (2x OSSD)	24V DC	Cable 5m	C
SF4C-F47	Safety light curtain, SIL3, PLe, finger type,	0.1 - 3m	480mm	PNP or NPN switchable (2x OSSD)	24V DC	Cable 5m	C
SF4C-F55	Safety light curtain, SIL3, PLe, finger type,	0.1 - 3m	560mm	PNP or NPN switchable (2x OSSD)	24V DC	Cable 5m	C
SF4C-F63	Safety light curtain, SIL3, PLe, finger type,	0.1 - 3m	640mm	PNP or NPN switchable (2x OSSD)	24V DC	Cable 5m	C
SF4C-H8	Safety light curtain, SIL3, PLe, hand type,	0.1 - 3m	160mm	PNP or NPN switchable (2x OSSD)	24V DC	Cable 5m	B
SF4C-H12	Safety light curtain, SIL3, PLe, hand type,	0.1 - 3m	240mm	PNP or NPN switchable (2x OSSD)	24V DC	Cable 5m	C
SF4C-H16	Safety light curtain, SIL3, PLe, hand type,	0.1 - 3m	320mm	PNP or NPN switchable (2x OSSD)	24V DC	Cable 5m	A
SF4C-H20	Safety light curtain, SIL3, PLe, hand type,	0.1 - 3m	400mm	PNP or NPN switchable (2x OSSD)	24V DC	Cable 5m	B
SF4C-H24	Safety light curtain, SIL3, PLe, hand type,	0.1 - 3m	480mm	PNP or NPN switchable (2x OSSD)	24V DC	Cable 5m	B
SF4C-H28	Safety light curtain, SIL3, PLe, hand type,	0.1 - 3m	560mm	PNP or NPN switchable (2x OSSD)	24V DC	Cable 5m	B

Please ask for relevant cables!

SQ4
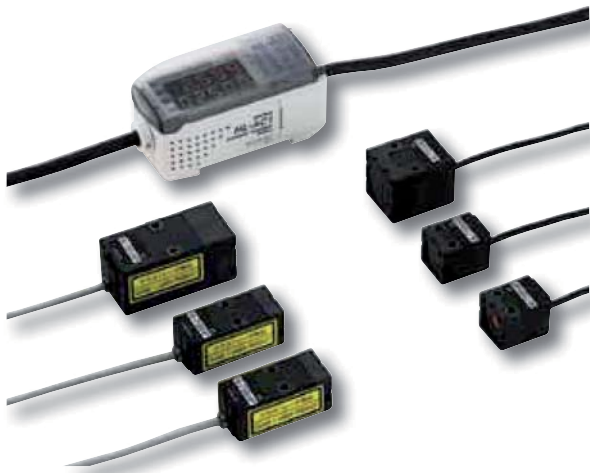## Safety liquid sensors

Features

Main functions
- Two-stage detection (mild leak, critical leak)
- Type 4, PLe, SIL3 (with SQ4-C11 controller)
- Chemically resistant housing (PFA)
- Operation also possible without controller

Accessories
- Mounting bracket
- Controller

Part number	Type	Sensing range	Output	Supply voltage	Cable/ connector	Stock type
SQ4-A21-N	Safety liquid leak sensor, SIL1	Water	NPN	12 to 24V DC	Cable 2m*	C
SQ4-A21-P	Safety liquid leak sensor, SIL1	Water	PNP	12 to 24V DC	Cable 2m*	C
SQ4-A22-N	Safety liquid leak sensor, SIL1	Chemical liquid	NPN	12 to 24V DC	Cable 2m*	B
SQ4-A22-P	Safety liquid leak sensor, SIL1	Chemical liquid	PNP	12 to 24V DC	Cable 2m*	C
SQ4-C11	Controller for SQ4 safety liquid leak sensors, SIL3, PLe		PNP or NPN switchable (2x OSSD)	24V DC	Terminal connector	C

*Please ask for relevant connectors!

HL-T1
Laser collimated sensors

Features

Main functions
- Resolution max. 4μm
- Red light semiconductor LED belongs to laser class 1
- Sensing range up to 2m (HL-T1001A)
- Min. sensing object 8μm diameter (HL-T1001A)
- Compact design

Accessories
- Side view (HLT1SV1/HLT1SV2)
- Extension cable (4 / 8m)

Part number	Type	Sensing range	Sensing height	Output	Supply voltage	Cable/ connector	Stock type
HLT1001A	Laser collimated sensor heads for HLT1 controller	0-500mm or 500 to 2000mm	1mm			Cable with connector 0.5m	B
HLT1005A	Laser collimated sensor heads for HLT1 controller	500mm	5mm			Cable with connector 0.5m	A
HLT1010A	Laser collimated sensor heads for HLT1 controller	500mm	10mm			Cable with connector 0.5m	B
HLAC1P	Controller for HLT1 laser collimated sensor heads			PNP	12 to 24V DC	Cable 2m	A

Features

Main functions

- A resolution of 0.5μm
- An integrated display for monitoring measurement results, status and settings
- 3 transistor outputs, 2 analog outputs and serial output (high-functionality type)
- A new CMOS receiving element that has revolutionized high accuracy

Accessories

- Cables 2m, 5m, 10m, 20m
- Touch panels (Panasonic AIG02Q14D/AIG02MQ15D)
- Touch panels (Panasonic AIG12GQ14D/AIG12GQ15D/ AIG12MQ14D/AIG12MQ15D)

HL-G1
Laser displacement sensors

Part number	Type	Measurement center distance and measuring range	Outputs	Supply voltage	Cable/ connector	Stock type
HL-G103-A-C5	Laser displacement sensor, laser class 2	30 ±4mm	0-10V, 4-20mA, 3x NPN/PNP selectable	24V DC	Cable 5m	A
HL-G103-S-J	Laser displacement sensor, laser class 2, RS422 or RS485 selectable	30 ±4mm	0-10V, 4-20mA, 3x NPN/PNP selectable	24V DC	Cable with connector 0.5m*	B
HL-G105-A-C5	Laser displacement sensor, laser class 2	50 ±10mm	0-10V, 4-20mA, 3x NPN/PNP selectable	24V DC	Cable 5m	A
HL-G105-S-J	Laser displacement sensor, laser class 2, RS422 or RS485 selectable	50 ±10mm	0-10V, 4-20mA, 3x NPN/PNP selectable	24V DC	Cable with connector 0.5m*	B
HL-G108-A-C5	Laser displacement sensor, laser class 2	85 ±20mm	0-10V, 4-20mA, 3x NPN/PNP selectable	24V DC	Cable 5m	A
HL-G108-S-J	Laser displacement sensor, laser class 2, RS422 or RS485 selectable	85 ±20mm	0-10V, 4-20mA, 3x NPN/PNP selectable	24V DC	Cable with connector 0.5m*	B
HL-G112-A-C5	Laser displacement sensor, laser class 2	120 ±60mm	0-10V, 4-20mA, 3x NPN/PNP selectable	24V DC	Cable 5m	A
HL-G112-S-J	Laser displacement sensor, laser class 2, RS422 or RS485 selectable	120 ±60mm	0-10V, 4-20mA, 3x NPN/PNP selectable	24V DC	Cable with connector 0.5m*	A

* Please ask for relevant cables!

Features

Main functions

- Resolution up to 0.01mm, regardless of sampling frequency
- Sampling frequency up to 100kHz
- Unaffected by color or surface condition of the object
- Linear beam spot type, beam dimensions up to 20 × 700mm
- Linearity error, max ±0.02% F.S.
- Compact design
- Sensing range 10mm ± 1mm, 30mm ± 5mm, 110mm ± 15mm

Accessories

- Extension cable (2 / 5 / 10 / 20 / 30m)
- Neutral density filter
- Compact console for easy setting

HL-C2
Laser displacement sensors

Part number	Type	Measurement center distance and measuring range	Outputs	Supply voltage	Cable/ connector	Stock type
HL-C201F	Laser displacement sensor head for HLC2 controller, small beam spot type, laser class 1, specular reflective	10±1mm			Cable with connector 0.5m*	B
HL-C201F-MK	Laser displacement sensor head for HLC2 controller, linear beam spot type, laser class 1, specular reflective	10±1mm			Cable with connector 0.5m*	C
HL-C203F	Laser displacement sensor head for HLC2 controller, small beam spot type, laser class 2	30±5mm			Cable with connector 0.5m*	C
HL-C203F-MK	Laser displacement sensor head for HLC2 controller, linear beam spot type, laser class 2	30±5mm			Cable with connector 0.5m*	C
HL-C211F	Laser displacement sensor head for HLC2 controller, small beam spot type, laser class 2	110±15mm			Cable with connector 0.5m*	C
HL-C211F5	Laser displacement sensor head for HLC2 controller, small beam spot type, laser class 3R	110±15mm			Cable with connector 0.5m*	C
HL-C211F5-MK	Laser displacement sensor head for HLC2 controller, linear beam spot type, laser class 3R	110±15mm			Cable with connector 0.5m*	C
HL-C211F-MK	Laser displacement sensor head for HLC2 controller, linear beam spot type, laser class 2	110±15mm			Cable with connector 0.5m*	C
HL-C2C-P	Controller for HLC2 laser heads		PNP, 4 to 20mA, -5V to +5V, RS232, USB 2.0	24 V DC	Terminal connector	C

* Please ask for relevant cables!

02/04/2013

Features

Main functions

- High resolution and repeatability
- Low and high pressure types
- Dual 3-color display (red, green, orange); industry first
- Analog output
- Current and threshold value in one view
- Copy function; new global standard
- Three operation modes, easy setting
- Equipped with an ECO mode
- Easy installation
- M8 connector type

Accessories

- Connector
- Connector attached cable 1, 3, 5m
- Sensor mounting bracket
- Panel mounting bracket
- Front protection cover

DP-100
Pressure sensors

Part number	Type	Pressure port	Rated pressure range	Outputs	NO/NC*	Supply voltage	Cable/connector	Stock type
DP101AEP	Pressure sensor for non corrosive gases	G1/8 M5	-1 to 1 bar	PNP and 1 to 5V	Selectable	12 to 24V DC	Cable with connector 2m	B
DP-101A-FE-P	Pressure sensor for non corrosive gases	G1/8 M5	-1 to 1 bar	PNP and 1 to 5V	Selectable	12 to 24V DC	Cable with connector 2m	C
DP101EP	Pressure sensor for non corrosive gases	G1/8 M5	-1 to 1 bar	2x PNP	Selectable	12 to 24V DC	Cable with connector 2m	A
DP-101-FE-P	Pressure sensor for non corrosive gases	G1/8 M5	-1 to 1 bar	2x PNP	Selectable	12 to 24V DC	Cable with connector 2m	C
DP102AEP	Pressure sensor for non corrosive gases	G1/8 M5	-1 to 10 bar	PNP and 1 to 5V	Selectable	12 to 24V DC	Cable with connector 2m	A
DP-102A-FE-P	Pressure sensor for non corrosive gases	G1/8 M5	-1 to 10 bar	PNP and 1 to 5V	Selectable	12 to 24V DC	Cable with connector 2m	C
DP102EP	Pressure sensor for non corrosive gases	G1/8 M5	-1 to 10 bar	2x PNP	Selectable	12 to 24V DC	Cable with connector 2m	A
DP-102-FE-P	Pressure sensor for non corrosive gases	G1/8 M5	-1 to 10 bar	2x PNP	Selectable	12 to 24V DC	Cable with connector 2m	C
DP111AEPJ	Pressure sensor for non corrosive gases	G1/8 M5	-1 to 1 bar	PNP and 1 to 5V	Selectable	12 to 24V DC	Connector M8	B
DP111EPJ	Pressure sensor for non corrosive gases	G1/8 M5	-1 to 1 bar	2x PNP	Selectable	12 to 24V DC	Connector M8	B
DP112AEPJ	Pressure sensor for non corrosive gases	G1/8 M5	-1 to 10 bar	PNP and 1 to 5V	Selectable	12 to 24V DC	Connector M8	A

*NO = normally open, NC = normally closed

Features

Main functions

- Oil-less diaphragm made of stainless steel 1.4542
- Housing made of stainless steel
- Pressure range up to 500bar
- Controller unit for basic monitoring tasks
- Type for combination of negative and positive pressure
- Reference point function (via external input on the controller)

DPH-100/DPC-100
Pressure sensors

Part number	Type	Pressure port	Rated pressure range	Outputs	NO/NC*	Supply voltage	Cable/connector	Stock type
DPH-101-M3	Pressure sensor head for non corrosive gases	M3	-1 to 1 bar	1 to 5V		12 to 24V DC	Cable 2m	C
DPH-101-M5	Pressure sensor head for non corrosive gases	M5	-1 to 1 bar	1 to 5V		12 to 24V DC	Cable 2m	C
DPH-102-M5	Pressure sensor head for non corrosive gases	M5	0 to 10 bar	1 to 5V		12 to 24V DC	Cable 2m	C
DPH-103-M3	Pressure sensor head for non corrosive gases	M3	-1 to 0 bar	1 to 5V		12 to 24V DC	Cable 2m	C
DPH-103-M5	Pressure sensor head for non corrosive gases	M5	-1 to 0 bar	1 to 5V		12 to 24V DC	Cable 2m	C
DPC-101P-J	Controller for DP-H pressure sensors			2x PNP + 1 to 5V or 4 - 20mA	Selectable	12 to 24V DC	Cable with connector 2m	C

*NO = normally open, NC = normally closed

FM-200

Flow sensors

Features

Main functions

- Easy-to-read 2-color display with sub display
- High precision of ±3 % F.S.
- One sensor for both intake and exhaust
- High flow-rate type for up to 1000 l/min
- Integrated value reset function
- Analog voltage and digital outputs
- Key lock function
- Rattle prevention function (response time setting)
- Display rate setting
- ECO mode

Accessories

- Sensor mounting brackets
- Panel mounting brackets

Part number	Type	port	Flow rate range	Outputs	NO/NC*	Supply voltage	Cable/connector	Stock type
FM-213-4-P	Bidirectional flow sensor for air and nitrogen	4mm push-in for tubes	1l / min	1 to 5V	Selectable	12 to 24V DC	Cable with connector 1m	C
FM-214-4-P	Bidirectional flow sensor for air and nitrogen	4mm push-in for tubes	10l / min	1 to 5V	Selectable	12 to 24V DC	Cable with connector 1m	C
FM-215-8-P	Bidirectional flow sensor for air and nitrogen	8mm push-in for tubes	100l / min	1 to 5V	Selectable	12 to 24V DC	Cable with connector 1m	C
FM-216-AG2-P	Bidirectional flow sensor for air and nitrogen	G1/2	1000l / min	1 to 5V	Selectable	12 to 24V DC	Cable with connector 1m	B
FM-252-4-P	Bidirectional flow sensor for air and nitrogen	4mm push-in for tubes	0.5l / min	1 to 5V	Selectable	12 to 24V DC	Cable with connector 1m	C
FM-253-4-P	Bidirectional flow sensor for air and nitrogen	4mm push-in for tubes	5l / min	1 to 5V	Selectable	12 to 24V DC	Cable with connector 1m	C
FM-254-8-P	Bidirectional flow sensor for air and nitrogen	8mm push-in for tubes	50l / min	1 to 5V	Selectable	12 to 24V DC	Cable with connector 1m	C
FM-255-AG2-P	Bidirectional flow sensor for air and nitrogen	G1/2	500l / min	1 to 5V	Selectable	12 to 24V DC	Cable with connector 1m	C

*NO = normally open, NC = normally closed

Ionizers

Part number	Type	Air pressure range	Charge removable width (max)	Supply voltage	Stock type
ER-Q	Ionizer, fan type, ultra compact		200mm	24V DC	A
ER-F12	Ionizer, fan type		700mm	24V DC	C
ER-TF04-EX	Ionizer, fan type, wide area		400mm	24V DC	C
ER-TF06-EX	Ionizer, fan type, wide area		600mm	24V DC	B
ER-TF08-EX	Ionizer, fan type, wide area		800mm	24V DC	B
EC-G01	Ionizer, compressed air type, hand held	0.5-5bar		24V DC	B
ERVW	Ionizer, compressed air type, double spot	0.5-5bar	300mm	24V DC	A
ERVS01	Ionizer, compressed air type, base for ERV shower and bar nozzles	0.5-7bar		24V DC	A
ERVAS	Shower nozzle for ERVS01		spot 300mm		
ERVAB020	Straight bar nozzle for ERVS01				
ERVAB032	Straight bar nozzle for ERVS01				
ERVAB065	Straight bar nozzle for ERVS01		800mm		
ER-X016	Ionizer head for ER-XC02 controller, airless or low pressure type	0-0.5bar	160mm		C
ER-X032	Ionizer head for ER-XC02 controller, airless or low pressure type	0-0.5bar	320mm		C
ER-X048	Ionizer head for ER-XC02 controller, airless or low pressure type	0-0.5bar	480mm		B
ER-X064	Ionizer head for ER-XC02 controller, airless or low pressure type	0-0.5bar	640mm		B
ER-XC02	Controller for ER-X-ionizer-heads			24V DC	B

Features

Main functions

- For static electricity prevention
- Several models and principles to choose from
- No external controllers needed
- Supply voltage: 24V DC

* Please ask for relevant cables!

02/04/2013

FP-PS24 series

24V DC power supplies

FP-PS24-120E
5.0A/24V DC

FP-PS24-060E
2.5A/24V DC

FP-PS24-024E
1.0A/24V DC

Features

Main functions

- Up to 91.5% efficiency (FP-PS24-060E)
- Current limiting and short-circuit safe
- High power density with minimal losses
- Wide ambient temperature range from -10°C to +70°C, without performance loss
- Safety approvals (IEC60950, UL60950,CSA22.2-60950, EN60950)
- Protection class II, without grounding
- Easy mounting and wiring
- Extremely compact with optimal air cooling

Part number	FP series power supply	Stock type
FP-PS24-024E	24W (primary 100-240V AC, secondary 24V DC/1A)	A
FP-PS24-060E	60W (primary 100-240V AC, secondary 24V DC/2,5A)	A
FP-PS24-120E	120W (primary 100-240V AC, secondary 24V DC/5A)	A

FP-e

Smallest PLC with timer, counter, hour meter & temperature control functions

Features

Main functions

- 8 inputs / 6 outputs or 6 inputs / 6 outputs + 2 thermocouple or analog inputs
- Communication: 2 x RS232C or 1x RS232C + 1x RS485 interfaces
- Program memory: 2,700 steps
- Data memory: 1,660 words
- 5-character, 2-line, 3-color display
- Front operation switch
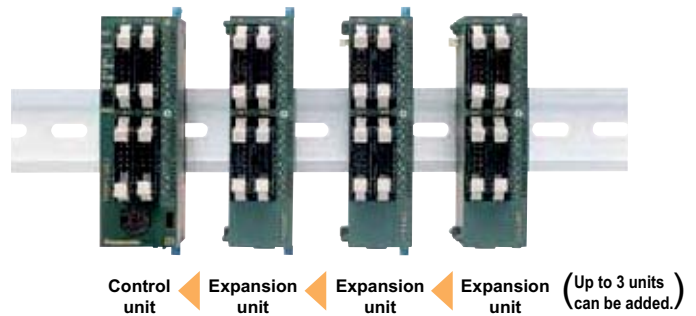- Panel mounted type

Part number	FP-e CPUs description	Stock type
AFPE224300	8 IN, 5 OUT NPN + 1 OUT relay, MC connectors, RS232C COM port, 24V DC	A
AFPE214325	6 IN, 5 OUT NPN + 1 OUT relay, 2 thermocouple IN, RS232C COM port, RTC, 24V DC	B
AFPE214325T06	6 IN, 5 OUT NPN + 1 OUT relay, 2 analog IN (0-20mA),RS232C COM port, RTC 24V DC	B

Accessories

Part number	FP-e CPUs description	Stock type
AQM4803J	Protective cover	A

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Features

Main functions

An ultra-high speed processing of 0.08µs/step for basic instructions for the first 3000 steps and 0.58µs/step thereafter. The FP0R is ideal for positioning and process automation applications, e.g. in labeling machines.

- Max. 64 inputs / 64 outputs transistor or 54 outputs relay
- Max. 24 analog inputs / 12 analog outputs
- 2 x RS232C interfaces, USB 2.0 port
- Large program memory: 16,000 to 32,000 steps
- Data memory: 12,315 to 32,765 words
- PROFIBUS, Ethernet TCP/IP, Modbus, S-Link, CC-Link, PLC Link
- Advanced built-in positioning functions
- 24 V DC power supply input
- Tool port: RS232C & Mini USB
- Types with COM port: RS232C

Part number	FP0R - CPUs description	Stock type
AFP0RC10RS	16k steps, 6 IN, 4 OUT relay, screw terminal block, Tool port	A
AFP0RC10CRS	16k steps, 6 IN, 4 OUT relay, screw terminal block, Tool port, COM port	B
AFP0RC14RS	16k steps, 8 IN, 6 OUT relay, screw terminal block, Tool port	A
AFP0RC14CRS	16k steps, 8 IN, 6 OUT relay, screw terminal block, Tool port, COM port	A
AFP0RC14MRS	16k steps, 8 IN, 6 OUT relay, screw terminal block, Tool port, COM port RS485	B
AFP0RC16P	16k steps, 8 IN, 8 OUT trans. PNP, MIL connector, Tool port	A
AFP0RC16T	16k steps, 8 IN, 8 OUT trans. NPN, MIL connector, Tool port	B
AFP0RC16CP	16k steps, 8 IN, 8 OUT trans. PNP, MIL connector, Tool port, COM port	A
AFP0RC16CT	16k steps, 8 IN, 8 OUT trans. NPN, MIL connector, Tool port, COM port	B
AFP0RC16MP	16k steps, 8 IN, 8 OUT trans. PNP, MIL connector, Tool port, COM port RS485	B
AFP0RC32P	32k steps, 16 IN, 16 OUT trans. PNP, MIL connector, Tool port	A
AFP0RC32T	32k steps, 16 IN, 16 OUT trans. NPN, MIL connector, Tool port	B
AFP0RC32CP	32k steps, 16 IN, 16 OUT trans. PNP, MIL connector, Tool port, COM port	A
AFP0RC32CT	32k steps, 16 IN, 16 OUT trans. NPN, MIL connector, Tool port, COM port	B
AFP0RC32MP	32k steps, 16 IN, 16 OUT trans. PNP, MIL connector, Tool port, COM port RS485	B
AFP0RT32CP	32k steps, 16 IN, 16 OUT trans. PNP, MIL connector, Tool port, COM port, RTC	A
AFP0RT32CT	32k steps, 16 IN, 16 OUT trans. NPN, MIL connector, Tool port, COM port, RTC	B
AFP0RT32MP	32k steps, 16 IN, 16 OUT trans. PNP, MIL connector, Tool port, COM port RS485, RTC	B
AFP0RF32CP	32k steps, 16 IN, 16 OUT trans. PNP, MIL connector, Tool port, COM port, flash RAM	A

FP0R
Ultra-compact PLC series

Control unit ◄ Expansion unit ◄ Expansion unit ◄ Expansion unit (Up to 3 units can be added.)

Part number	Analog I/O expansion units description	Stock type
FP0A04IJ	4 current outputs, 4 to 20mA, screw terminal block	B
FP0A04VJ	4 current outputs, -10 to +10V, screw terminal block	A
FP0-A21	2 IN (0.20mA, -10+10V or thermo elements) and 1 OUT (0.20mA or -10+10V)	A
FP0-A80	8 IN (-10V+10V, -100mV+100mV, 0.5V or 0.20mA), screw terminal block	A
Part number	Digital I/O expansion units description	Stock type
AFP0RE8RS	4 IN, 4 OUT relay, screw terminal block	B
AFP0RE8X	8 IN, MIL connector	B
AFP0RE8YP	8 OUT trans. PNP, MIL connector	B
AFP0RE8YRS	8 OUT relay, screw terminal block	B
AFP0RE16P	8 IN, 8 OUT trans. PNP, MIL connector	A
AFP0RE16RS	8 IN, 8 OUT relay, screw terminal block	A
AFP0RE16X	16 IN MIL connector	B
AFP0RE16YP	16 OUT trans. PNP, MIL connector	B
AFP0RE32P	16 IN, 16 OUT trans. PNP, MIL connector	A
AFP0RE32T	16 IN, 16 OUT trans. NPN, MIL connector	B
FP0E32RSD	16 IN,16 OUT relay, screw terminal block	A
Part number	FP0/Sigma Temperature control units description	Stock type
FP0TC4J	4 IN, thermo element	B
FP0TC8J	8 IN, thermo element	B
FP0RTD6D	6 IN, PT100/PT1000/NI1000, -200°C to +500°C, 0.1° resolution	A

Accessories

Part number	I/O cables description	Stock type
AFP0521COLD	10-pin MIL connector and 10 colored wires, set of two cables, 1m, 2 pieces	A
AFP0522COLD	10-pin MIL connector and 10 colored wires, set of two cables, 2m, 2 pieces	B

02/04/2013

Features

Main functions

- Equipped with a high-speed RISC processor, achieving high-speed processing with a scan time of less than 2ms for 5000 steps
- High-speed positioning unit:
  The 4Mbps maximum frequency and startup speed of 0.005ms allow use for linear servo control
- Max. 192 inputs / 192 outputs transistor or 56 outputs relay
- Max. 40 analog inputs / 28 analog outputs
- Communication: 3 x RS232C or 2 x RS232C + 1 x RS485 interfaces
- Program memory: 32,000 steps
- Data memory: 32k to 1056k words
- PROFIBUS, Ethernet TCP/IP, Modbus, CC-Link, S-Link, CANopen, DeviceNet
- Motion control functions

Part number	FPΣ (Sigma) CPUs description	Stock type
FPG-C24R2H	32k steps, 16IN/8OUT relay, screw terminal block	A
FPGC24R2HTM	32k steps, 16IN/8OUT relay plus 2 thermistor inputs, screw terminal block	B
FPG-C28P2H	32k steps, 16IN/12OUT transistor PNP, MIL connector	A
FPGC28P2HTM	32k steps, 16IN/12OUT transistor PNP plus 2 thermistor inputs, MIL connector	A
FPG-C32T2H	32k steps, 16IN/16OUT transistor NPN, MIL connector	A

Part number	FPΣ (Sigma) communication cassette description	Stock type
FPG-COM1	1 x RS232C (5-pin)	A
FPG-COM2	2 x RS232C (2x3-pin)	A
FPG-COM3	1 x RS485 (3-pin)	B
FPG-COM4	1 x RS485 - COM1 (2-pin) and 1 x RS232C - COM2 (3-pin)	A

FPΣ (Sigma)

The next generation compact PLC

Note: FP0R expansion units can also be used for FPΣ (Sigma)

Part number	FPΣ (Sigma) expansion units description	Stock type
FPG-XY64D2P	32 IN, 32 OUT trans. PNP, MIL connector	A
FPG-XY64D2T	32 IN, 32 OUT trans. NPN, MIL connector	A

Part number	FPΣ (Sigma) open networks master units description	Stock type
FPG-CAN-M	FPG CANopen FMU master	B
FPG-DEV-M	FPG DeviceNet FMU master	B
FPG-DPV1-M	FPG Profibus DP Master FMU, Profibus Ver. 1	B

Part number	FPΣ (Sigma) open networks slave units description	Stock type
FPG-CAN-S	FPG CANopen slave	B
FPG-DEV-S	FPG DeviceNet slave	B
FPG-DPV1-S	FPG PROFIBUS DP slave	B
FPG-PRT-S	FPG PROFINET I/O slave	B

Part number	FPΣ (Sigma) Motion control units description	Stock type
FPGPP21	2-axis motion control unit with transistor outputs	B
FPGPP22	2-axis motion control unit with line driver outputs	B
FPGPP21	2-axis motion control unit with transistor outputs	B
FPGPN8AN	8-axis RTEX motion control unit	B

Accessories

Part number	Description	Stock type
AFPG804	Battery for FPΣ (Sigma), FP-e, with plug connection	A
AFPG805	Power supply cable, white 3-pin connector with ferrite core, 1m	B
AFPG807	FPΣ (Sigma) battery holder	B

Parallel expansion BUS

Serial expansion BUS

Max. 4 expansion units each 64 I/Os = 256 I/Os

Max. 3 expansion units each 32 I/Os = 96 I/Os

…up to 384 I/Os! 02/04/2010

Control unit max. 32 I/Os

FP-X
Advanced compact PLC

Features

Main functions

- FP-X is a highly flexible and expandable PLC which satisfies a wide range of applications and demands
- Add-on cassettes can expand functionality while saving space. Up to three add-on cassettes can be attached to the control unit. The 16 types of add-on cassettes, including communication and analog types, cover a wide variety of applications.
- Max. 382 I/Os
- Max. 126 analog inputs / 16 analog outputs
- Communication: 3 x RS232C or 2 x RS232C + 1x RS485 interfaces
- CPU C-30 and C-60 equipped with additional USB programming port
- Program memory: 16,000 or 32,000 steps
- Data memory: 32,765 words
- PROFIBUS, Ethernet TCP/IP, Modbus
- Motion control functions

Part number	FP-X add-on cassettes description	Stock type
AFPXCOM1	1 x RS232C (5-pin)	A
AFPXCOM2	2 x RS232C (2x3-pin)	A
AFPXCOM3	1 x RS422/485 (5-pin)	A
AFPXCOM4	1 x RS485 - COM1 (2-pin) and ch. RS232C - COM2 (3-pin)	B
AFPXCOM5	1 x Ethernet - COM1 and 1 x RS232C - COM2 (3-pin)	B
AFPX-COM6	1 x RS485-COM1 (2 pin) and 1 x RS485C-COM2 (2-pin)	A
AFPX-A21	Analog I/O, 2 ch. inputs (0-10V or 0-20mA), 1ch. output (0-10V or 0-20mA)	A
AFPX-DA2	Analog output, 2 outputs (0..10V or 0.20mA), starting FP-X Ver. 2.4	B
AFPX-TC2	Thermocouple input, 2-point, K/J type, -50°C to +500°C, resolution 0.2°C	B
AFPXAD2	Analog input, 2 inputs (0-10V or 0-20mA)	A
AFPXIN8	Digital input, 8 IN screw terminal block	B
AFPXMRTC	Master memory cassette with real-time clock	B
AFPXTR8	Digital output, 8 OUT NPN trans., screw terminal block	B

Part number	FP-X CPUs description	Stock type
AFPXC14PD	16k steps, 8 IN, 6 OUT, PNP trans., screw terminal block, 24 V DC	B
AFPXC14RD	16k steps, 8 IN, 6 OUT, relay, screw terminal block, 24 V DC	A
AFPXC14R	16k steps, 8 IN, 6 OUT, relay, screw terminal block, 230V AC	A
AFPXC30PD	32k steps, 16 IN, 14 OUT, PNP trans., screw terminal block, 24 V DC	A
AFPXC30P	32k steps, 16 IN, 14 OUT, PNP trans., screw terminal block, 230V AC	B
AFPXC30RD	32k steps, 16 IN, 14 OUT, relay, screw terminal block, 24 V DC	A
AFPXC30R	32k steps, 16 IN, 14 OUT, relay, screw terminal block, 230V AC	A
AFPXC30TD	32k steps, 16 IN, 14 OUT, NPN trans., screw terminal block, 24 V DC	A
AFPXC30T	32k steps, 16 IN, 14 OUT, NPN trans., screw terminal block, 230V AC	B
AFPXC60PD	32k steps, 32 IN, 28 OUT, PNP trans., screw terminal block, 24 V DC	A
AFPXC60P	32k steps, 32 IN, 28 OUT, PNP trans., screw terminal block, 230V AC	B
AFPXC60RD	32k steps, 32 IN, 28 OUT, relay, screw terminal block, 24 V DC	A
AFPXC60R	32k steps, 32 IN, 28 OUT, relay, screw terminal block, 230V AC	A

Part number	FP-X expansion units description	Stock type
AFPXE16P	8 IN, 8 OUT, PNP trans., screw terminal block ATTENTION: It's not possible to install two units of this kind without power input side by side	B
AFPXE16R	8 IN, 8 OUT, relay, screw terminal block,	B
AFPXE30PD	16 IN, 14 OUT, PNP trans., screw terminal block, 24V DC	A
AFPXE30RD	16 IN, 14 OUT, relay, screw terminal block, 24V DC	B
AFPXE30R	16 IN, 14 OUT, relay, screw terminal block, 230V AC	B
AFPX-E16X	16 IN, screw terminal block ATTENTION: It's not possible to install two units of this kind without power input side by side	B
AFPXEFP0	FP-X adapter for connecting FP0 expansion units, 24V DC	B

Accessories

Part number	Description	Stock type
AFPXBATT	Battery with cable for FP-X and GT02/05/12/32, for clock and data	A

FP Web-Server & FP Web Expansion Unit

Features

Main functions

The FP Web-Server unit connects all FP series controllers to the Ethernet. No changes to the PLC programs are necessary. Simply assign an IP address to the FP Web-Server and connect the PLC to the FP Web-Server via the serial RS232C interface. A standard browser, e.g. MS Internet Explorer or Mozilla Firefox, can be used for access by the PC.

- Uses existing Intranet, saves wiring
- Uses standard browser, saves Scada software
- Remote control, monitoring and programming
- Alarm information via e-mail
- With FP Web Expansion Unit:
  - Data logging, SD memory card slot
  - USB port, e.g. for communicating with GT panels
  - RS485 interface

Part number	FP Web-Server and FP Web Expansion Unit	Stock type
FPWEB2	FP Web-Server 2, Ethernet unit with 10/100MBit/s	A
FPWEBEXP	FP Web Expansion Unit for FPWEB2	A
AIGT8192	Connection cable from FP series PLC's Tool port to FPWEB2, 2m	A

FP Web Designer

Software

Main functions

FP Web Designer is an easy-to-use editing tool for creating websites for visualizing all process graphics and displaying process data collected by FP Web-Server. No programming knowledge for HTML, PHP, JavaScript or Java is required! Extensive graphic libraries help users with their design work.

FP Web Configurator

Tool version 2

Main functions

Configuration of all hardware settings and website data of the FP Web-Server unit is easily done with the FP Web Configurator Tool, which has to be ordered once separately.

Part number	FP Web-Server software tools	Stock type
AFPS36510-E	FP Web Designer software	A
FPWEBTOOL2D	Control FP Web Configurator tool version 2	A

02/04/2013

FP2SH

High performance PLC

Features

Main functions

- Scanning time of 1ms for 20k steps
  An impressive operating speed enables high-speed processing and a dramatically decreased tact time.
- Large programming capacity of up to 120k steps 32k, 60k and 120k programming capacities are available depending on the model.
- Optional small PC card is also available
  The small PC card is available for programming backup or data memory expansion. This allows great amounts of data to be processed.
- Built-in comment and calendar timer functions
- Wide assortment of I/O and intelligent units

Part number	FP2SH CPUs	Stock type
FP2C2J	FP2SH CPU with COM port, 60k steps, RTC, incl. battery	A
FP2C2LJ	FP2SH CPU with COM port, 32k steps, RTC, incl. battery	A
FP2C2PJ	FP2SH CPU with COM port, 60k steps, IC card slot, RTC, incl. battery	C
FP2C3PJ	FP2SH CPU with COM port, 120k steps, IC card slot, RTC, incl. battery	B

Part number	FP2SH expansion units, digital	Stock type
FP2DMJ	FP2 dummy unit for blank slot	B
FP2X16D2J	FP2 unit 16 IN (12-24V DC), p+n - switching	A
FP2X32D2J	FP2 unit 32 IN (24V DC), p+n - switching	B
FP2X64D2J	FP2 unit 64 IN (24V DC), p+n - switching	A
FP2XY64D2PJ	FP2 combi unit 32 IN (12-24V DC), 32 OUT transistor PNP (5-24V DC), 0.1A at 12-24V	B
FP2Y16PJ	FP2 unit 16 OUT transistor PNP (5-24V DC), 0.5A at 12-24V	B
FP2Y16RJ	FP2 unit 16 OUT relay (250V AC / 30V DC / 2A)	B
FP2Y32PJ	FP2 unit 32 OUT transistor PNP (5-24V DC), 0.1A at 12-24V	C
FP2Y64PJ	FP2 unit 64 OUT transistor PNP (5-24V DC), 0.1A at 12-24V	B

Part number	FP2SH expansion units analog	Stock type
FP2AD8VIJ	FP2 analog input unit 8x13/16-bit channels (4-20mA, +/-20mA, +/-10V, 1-5V), M3.5 screw terminal	A
FP2AD8XJ	FP2 analog INPUT unit 8x13/16-bit channels (+/-10V, 1-5V, PT100/1000, thermocoup.: S, J, K, T, R, N)	B
FP2DA4J	FP2 analog output unit, 4 ch. resolution 12 bits, (+/-10V, 0-20mA), M3.5 screw terminal	A
FP2RTDJ	FP2 temperature sensor input unit 8x PT100/PT1000, MC connector	B

Part number	FP2SH expansion units, serial communication	Stock type
FP2MCUJ	FP2 Multi Communication Unit (MCU). (2xRS232C/RS422/RS485), without communication block	A
FP2CB232J	FP2 RS232C communication block for FP2 MCU, 300 to 230400bps, 15m max.	B
FP2CB485J	FP2 RS485 communication block for FP2 MCU, 300 to 230400 bps, 1200m	B
FP2-ET2	FP2 Ethernet LAN unit (10BaseT, 100BaseT, TCP/IP, UDP/IP, MEWTOCOL)	B

Part number	FP2SH expansion units, positioning	Stock type
FP2HSCPJ	FP2 high-speed counter unit, 4 high-speed counters (200kHZ), 8 interrupt inputs (all PNP)	B
FP2PN8AN	FP2-PN8AN, 8-axis RTEX motion control unit	B
FP2PP22J	FP2 positioning unit, 2 axes, line driver output	B
FP2PP42J	FP2 positioning unit, 4 axes, line driver output	B

Part number	FP2SH racks and power supply	Stock type
FP2BP05J	FP2 main rack, 5 slots (without expansion opportunity)	B
FP2BP07J	FP2 main/expansion rack 7 slots (standard type)	B
FP2BP09J	FP2 main/expansion rack 9 slots (standard type)	B
FP2-BP11MH	FP2 main rack (H-type), 8 slots für I/Os... plus 3 for power supply single or double width and CPU	B
FP2BP12J	FP2 main/expansion rack 12 slots (standard type)	B
FP2PSA2J	FP2 power supply 200V to 240V, 2.5A	B
FP2PSA3J	FP2 power supply 100V bis 240V, 5A, 2 slots	B
FP2PSD2J	FP2 power supply 24V DC, 5A, 2 slots	B

Part number	FP2SH Fieldbus Master Units (FMU)	Stock type
FP2-CAN-M	FP2 CANopen FMU	B
FP2-DPV1-M	FP2 Profibus DP FMU, PROFIBUS Ver. 1	A
FP2-DEV-M	FP2 DeviceNet FMU	B

Part number	FP2SH Fieldbus Slave Units (FSU)	Stock type
FP2-DEV-S	FP2 DeviceNet FSU	B
FP2-CAN-S	FP2 CANopen FSU	B
FP2-DPV1-S	FP2 PROFIBUS DP FSU	A
FP2-PRT-S	FP2 PROFINET FSU	B
FPG-BACIP-S	FPΣ (Sigma) BACnet-IP FSU, 10/100 Mbps	B
FPG-BACMSTP-S	FPΣ (Sigma) BACnet-MSTP FSU, 9600 - 76,800 Mbps	B

02/04/2013

Control FPWIN Pro

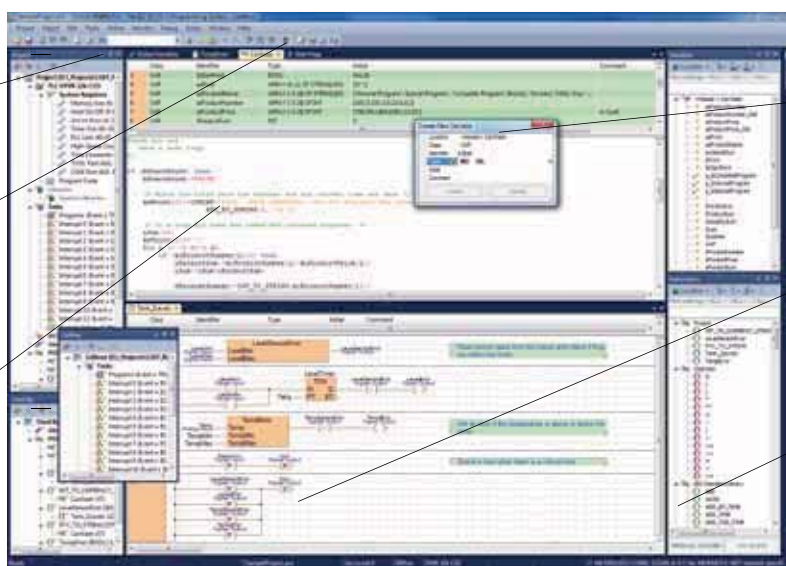## The Panasonic PLC programming software

Main features

Control FPWIN Pro is the Panasonic programming software developed according to the international standard IEC 61131-3 (for Windows® XP/Vista/Windows 7). We were one of the first PLC manufacturers to offer a programming software that complies to this standard.

- 5 programming languages: IL (Instruction List), LD (Ladder Diagram), FBD (Function Block Diagram), SFC (Sequential Function Chart), ST (Structured Text)
- Well-structured through program organization units, task and project management

- Remote programming, service and diagnostics via modem or Ethernet
- Extensive comments and online documentation created hand in hand with the program
- Minimum program dimensions through optimized compiler
- Powerful debugging and monitoring tools provide information on the current status of the PLC
- Comprehensive printed documentation and support for function blocks and libraries help to get your hardware running in record time while maintaining rigorous quality standards
- Reuse of functions and function blocks saves time

Navigators provide an over-view, even for very complex projects

Toolbar contains icons for frequently used menus

Structured Text (ST) programming editor

Declaration of variables

Ladder Diagram (LD) programming editor

Selection of instructions

Part number	Control FPWIN Pro programming software	Stock type
FPWINPRO6-SMALL	Control FPWIN Pro 6 small version (for FP-e, FP0, FP0R, FPΣ (Sigma), FP-X)	A
FPWINPRO6-FULL	Control FPWIN Pro 6 full version (supports all FP series PLCs)	A
AFC8513D	Programming cable for GT and FP0/2/-e/-Sigma/-X TOOL port (MiniDIN 5-pin, wound) <-> PC/FPWEB/GN series (Sub-D9), 3m	A

GT02G/M

GT05M

GT series

Compact touch terminals

GT12

GT32M/T

Features

GT02 series touch panel

- 3.8" monochrome STN display
- 3-color LED backlight
- Resolution 240x96 dots
- SD memory card slot - up to 32GB, class 10 (GT02MQ2/Q2)
- Real-time clock
- IP67
- Dimensions: 112x74x27mm

GT05 series touch panel

- 3.5" STN monochrome / 4096 color display
- 3-color LED backlight (green/orange/red), only for monochrome displays
- White color LED backlight, color displays
- Resolution: 320x240 dots
- USB interface
- SD memory card slot (16GB max.)
- Real-time clock
- Dimensions: 110x92.2x33.8mm

GT12 series touch panel

- 4.6" STN display
- Monochrome / 8 shades of gray
- 3-color LED backlight (green/orange/red or red/pink/white)
- Resolution: 320x120 dots
- SD memory card
- Real-time clock
- IP67 degree of protection
- Dimensions: 146x74x30mm

GT32 series touch panel

- 5.7" STN monochrome / 5.5" 4096 TFT color display
- Long-life CFL backlight
- Resolution: 320x240 dots
- USB interface
- SD memory card slot (16GB max.)
- Ethernet and sound output (only GT32T1)
- Real-time clock
- Dimensions: 163.2x128.8x39.1mm

Part number	GT02 description	Stock type
AIG02GQ02D	RS232, 5V DC, black frame, LED backlight: red, orange, green, no SD card slot	A
AIG02GQ12D	RS232, 24V DC, black frame, LED backlight: red, orange, green, no SD card slot	A
AIG02GQ14D	RS422/485, 24V DC, black frame, LED backlight: red, orange, green, no SD card slot	B
AIG02GQ22D	RS232, 24V DC, black frame, LED backlight: red, orange, green, SD/SDHC card slot, real-time clock	B
AIG02MQ03D	RS232, 5V DC, silver frame, LED backlight: white, red, pink, no SD card slot	B
AIG02MQ13D	RS232, 24V DC, silver frame, LED backlight: white, red, pink, no SD card slot	B
AIG02MQ23D	RS232, 24V DC, silver frame, LED backlight: white, red, pink, SD/SDHC card slot, real-time clock	B

Part number	GT05 description	Stock type
AIG05GQ02D	RS232, 24V DC, black frame, backlight color: red, orange, green, SD/SDHC card slot	A
AIG05MQ02D	RS232, 24V DC, black frame, backlight color: white, red, pink, SD/SDHC card slot	A
AIG05SQ02D	RS232, 24V DC, black frame, TFT color, SD/SDHC card slot	A
AIG05SQ03D	RS232, 24V DC, silver frame, TFT color, SD/SDHC card slot	A
AIG02MQ03D	RS232, 5V DC, silver frame, LED backlight: white, red, pink, no SD card slot	B

Part number	GT12 description	Stock type
AIG12GQ12D	24V DC, SD/SDHC card slot, black frame, backlight color: red, orange, green	A

Part number	GT32 description	Stock type
AIG32MQ02D	5.7", monochrome, RS232, black frame	A
AIG32MQ03D	5.7", monochrome, RS232, silver frame	B
AIG32TQ02D	5.5", 4096 colors, RS232, black frame	A
AIG32TQ03D	5.5", 4096 colors, RS232, silver frame	B
AIG32TQ04D	5.5", 4096 colors, RS422/485, black frame	A
AIG32TQ12D	5.5", 4096 colors, sound output, Ethernet (prog.), RS232, black frame	B

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GT32E

GT series

"Outdoor" panel

Features

GT32E series touch panel

- 5.7" TFT display
- Monochrome (16 shades of gray) or 4096 colors
- Extensive ambient temperature range: -20°C to + 60°C
- UV protection: protective layer on the front minimizes UV-related aging processes
- Excellent legibility, brightness and contrast. Non-reflecting display
- Anti ultraviolet rays
- Non-glare treatment
- IP67 degree of protection, highly impervious to dampness, water, vapors, etc.

Part number	GT32E desciption	Stock type
AIG32MQ03DE	Monochrome, RS232 + USB-B (prog.), 24V DC, SD/SDHC card slot, silver frame	B
AIG32TQ03DE	4096 colors, RS232 + USB-B (prog.), 24V DC, SD/SDHC card slot, silver frame	B

Part number	Accessories for GT32	Stock type
AIGT8142	Connection cable for GT01/GT02, 5V types to the Tool port of FP series PLCs, 2m	A
AIGT8192D	Connection cable FP0/FP-X/FP-Sigma/FP2/FP2SH Tool port (L type) <-> FPWEB2/GT-RS232 (open ends), 2m	A
CABMINIUSB5	Mini USB programming cable, USB-A to mini USB (5-pin), 1.8m	B
RP-SDNA04GEK	SDHC card for GT02/05/12/32, 4GB, class 2	B
AIGT8001V2	Programming software, Terminal GTWIN Ver. 2	B
AIG02MQ13D	RS232, 24V DC, silver frame, LED backlight: white, red, pink, no SD card slot	B

GTWIN software

GT series screen creation tool

Main functions

GTWIN is a screen creation software designed for the GT series. You can design screens and download them to a GT touch panel, upload data from a GT panel or print. You can compose messages and graphics. GTWIN comes with a host of pre-defined parts that make it easy for you to design screens quickly and easily, e.g. switches, lamps, clocks, keyboards, etc. Just drag and drop them onto your screen.

- Multilingual menu and dialogs
- Graphics
- Automatic firmware update
- User-friendly parts libraries
- Save base screen images as bitmaps

02/04/2013

GN series
Powerful touch panel with Movicon SCADA software

Features

GN series touch panels

The GN series was designed to leave no wish unfulfilled. Embedded in an elegant black frame, the TFT screens offer a brilliant, vivid and life-like display in 262,144 colors (GN15: 16.2M). The GN series boasts an IP65 degree of protection from the front, and its screen responds flawlessly to the touch. With a resolution of up to 1024x768 pixels and a brightness of 400cd/m² (max.), you will never be left in the dark.

- Available from 7" to 15"
- Non-proprietary programming system
- Powerful hardware architecture (Intel® Atom)
- Flexibility provided by numerous ports
- No software commitment or proprietary bus system
- Gigabit LAN
- 2 x LAN 100

Part number	GN series touch panel HMI	Stock type
AIGN07M232	7", TFT color, 800x480 pix.,1 x RS232, 2 x USB-A, Windows CE, Movicon CE Runtime	B
AIGN10M232	10.4", TFT color, 800x600 pix.,1 x RS232, 3 x USB-A, Windows CE, Movicon CE Runtime	A
AIGN12M232	12.1", TFT color, 800x600 pix., 1 x RS232, 3 x USB-A, Windows CE, Movicon CE Runtime	B
AIGN15M232	15" , TFT color, 1024x768 pix., 1 x RS232, 3 x USB-A, Windows CE, Movicon CE Runtime	B
AIGN10W232T02*	10.4", TFT color, 800x600 pix., 1 x RS232, 3 x USB-A, WES7, 2GB RAM, eUSB 8GB,	C/10pcs
AIGN15W232T02*	15", TFT color, 1024x768 pix., 1 x RS232, 3 x USB-A, WES7, 2GB RAM, eUSB 8GB	C/10pcs

*without Movicon SCADA software - min. order 10 pieces

	GN07	GN10	GN12	GN15
Display dimensions (W x H in mm)	7" 152.4 x 91.44	10.4" 211.2 x 158.4	12.1" 246.0 x 184.5	15" 304.1 x 228.1
Display mode	TFT, 256k color	TFT, 256k color	TFT, 256k color	TFT 16.2M color
Brightness	330 cd/m²	230 cd/m²	400 cd/m²	350 cd/m²
Resolution (W x H)	800 x 480 dots	800 x 600 dots	800 x 600 dots	1024 x 768 dots
Processor	Intel® Atom™ N270 1.6 GHz			
RAM	512MB (Win CE) / 2GB (WES 7)			
User memory	1GB (Win CE)			
RS232C	✓	✓	✓	✓
RS485 (422)	Optional			
LAN	2 x 10/100/1000 Base-T			
USB	2 x rear, -	2 x rear, 1 x front	2 x rear, 1 x front	2 x rear, 1 x front
Fieldbus	Optional			

Panasonic Movicon

Features

Panasonic provides the most powerful HMI platform for Windows® CE today: Movicon™ 11. Comprehensive projects, wholly capable of satisfying your every need in visualization and control in a compact environment without foregoing the potential of the SCADA system can be created with the development tool. Our GN series offers the complete flexibility by using Movicon™ runtime:

- Alarm management
- Multiple drivers
- Integrated VBA logic
- Built-in Web client
- Security concept
- Data loggers and recipes on database
- Extensive graphic library

02/04/2013

MINAS A5 series

Servo drives

Features

MINAS A5

- Extremely fast response frequency: 2kHz bandwidth (velocity response)
- Pulse inputs and outputs with up to 4MHz
- Real-time auto-tuning function during operation
- 4 notch filters: manual/automatic
- 4 damping filters: manual/automatic
- PANATERM® V5.0: Freeware for configuration and motion simulation
- Supports safety standards according to: EN954-1(CAT3), ISO13849-1 (PLd), EN61508(SIL2), EN62061(SIL2), EN61800-5-2(STO), IEC61326-3-1
- Full-closed control

MINAS A5E economy version

- High performance (like MINAS A5 series standard drives)
- Multifunctional (like MINAS A5 series standard drives)
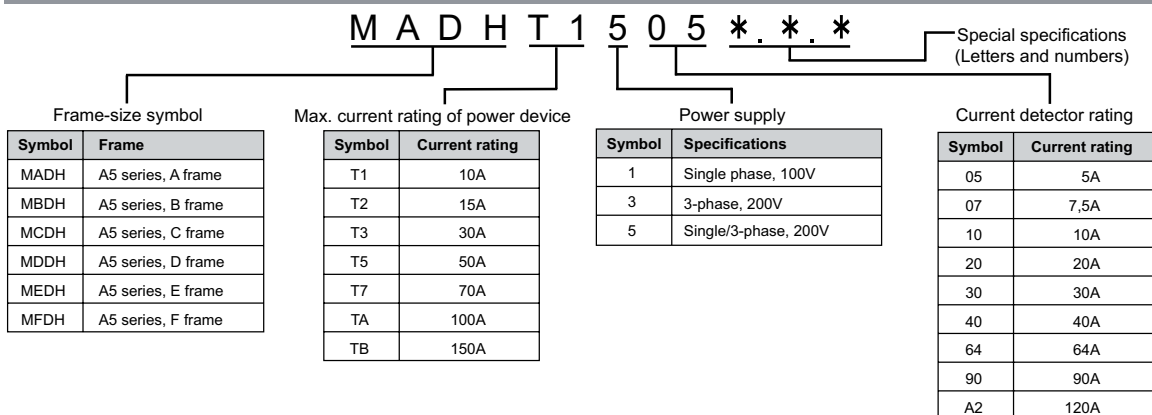- Attractive price-performance ratio

MINAS A5N/RTEX Ethernet version

- Real-time communication: 100Mbps using RTEX protocol
- Supports position, velocity and torque control and safety standards just like MINAS A5
- Manual and automatic damping filters
- Complete set of commands for up to 32 axes per network
- RTEX positioning units for FPΣ (Sigma) and FP2 controllers
- Easy wiring using standard Ethernet cables (CAT5e, up to 100m between units)

Part number	MINAS A5 Driver - 1 phase	Stock type
MADHT1505	Position, velocity and torque control, 50/100W	B
MADHT1507	Position, velocity and torque control, 200W	A
MBDHT2510	Position, velocity and torque control, 400W	A
MCDHT3520	Position, velocity and torque control, 750W	A
MDDHT5540	Position, velocity and torque control, 1kW/1.5kW	A
MADHT1505E	Position control via address input, without analog input, 50/100W	B
MADHT1507E	Position control via address input, without analog input, 200W	B
MBDHT2510E	Position control via address input, without analog input, 400W	A
MCDHT3520E	Position control via address input, without analog input, 750W	A
MADHT1505NA1	Network servo drive RTEX, 50/100W	A
MADHT1507NA1	Network servo drive RTEX, 200W	A
MBDHT2510NA1	Network servo drive RTEX, 400W	A
MCDHT3520NA1	Network servo drive RTEX, 750W	A

Part number	MINAS A5 Driver - 3 phase	Stock type
MDDHT2412	Position, velocity and torque control, 1kW	C
MDDHT3420	Position, velocity and torque control, 1.5kW	A
MEDHT4430	Position, velocity and torque control, 2kW	B
MFDHT5440	Position, velocity and torque control, 3kW	A
MFDHTA464	Position, velocity and torque control, 4kW	A
MDDHT2412NA1	Network servo drive RTEX, 1kW	B
MDDHT3420NA1	Network servo drive RTEX, 1.5W	B

Model designation

M A D H T 1 5 0 5 *.*.* — Special specifications (Letters and numbers)

Frame-size symbol

Symbol	Frame
MADH	A5 series, A frame
MBDH	A5 series, B frame
MCDH	A5 series, C frame
MDDH	A5 series, D frame
MEDH	A5 series, E frame
MFDH	A5 series, F frame

Max. current rating of power device

Symbol	Current rating
T1	10A
T2	15A
T3	30A
T5	50A
T7	70A
TA	100A
TB	150A

Power supply

Symbol	Specifications
1	Single phase, 100V
3	3-phase, 200V
5	Single/3-phase, 200V

Current detector rating

Symbol	Current rating
05	5A
07	7,5A
10	10A
20	20A
30	30A
40	40A
64	64A
90	90A
A2	120A

MINAS A5 series

Motors

Features

Common specifications

Suited for use with all drive controllers (A5, A5E, A5N, A5B),
an overview of all MINAS A5 motors.

- 20-bit, high-precision incremental encoder
- Low cogging torque
- IP65/IP67 degree of protection for all MSME motor types
  (Excluding shaft feedthrough and connectors)
- Compact design

Part number	MINAS A5 motor - high interna	Stock type
MHME104G1G	1kW, 4.77Nm, key-way shaft, oil seal	B
MHME154G1G	1.5kW, 7.16Nm, key-way shaft, oil seal	A
MHME154G1H	1.5kW, 7.16Nm, key-way shaft, oil seal, holding brake	B
MHME204G1G	2kW, 9.55Nm, key-way shaft, oil seal	B
MHME204G1H	2kW, 9.55Nm, key-way shaft, oil seal, holding brake	B
MHME304G1G	3kW, 14.3Nm, key-way shaft, oil seal	B
MHME404G1H	4kW, 19.1Nm, key-way shaft, oil seal, holding brake	C
MHME504G1H	5kW, 23.9Nm, key-way shaft, oil seal, holding brake	B

Part number	MINAS A5 Motor - middle interna	Stock type
MDME104G1G	1kW, absolute encoder, 4.77Nm, key-way shaft, oil seal	C
MDME152G1G	1.5kW, 7.16Nm, key-way shaft, oil seal	C
MDME304G1G	3kW, 14.3Nm, key-way shaft, oil seal	C
MDME504G1G	5kW, 23.9Nm, key-way shaft, oil seal	C

Part number	MINAS A5 motor - low interna	Stock type
MSME5AZG1U	50W, 0.16Nm, key-way shaft, oil seal	B
MSME012G1S	100W, 0.32Nm, key-way shaft	B
MSME012G1U	100W, 0.32Nm, key-way shaft, oil seal	A
MSME022G1C	200W, 0.64Nm, round shaft, oil seal	A
MSME022G1D	200W, 0.64Nm, round shaft, oil seal, holding brake	B
MSME022G1U	200W, 0.64Nm, key-way shaft, oil seal	A
MSME022G1V	200W, 0.64Nm, key-way shaft, oil seal, holding brake	B
MSME022S1V	200W, 0.64Nm, absolute encoder, key-way shaft, oil seal, holding brake	B
MSME042G1C	400W, 1.3Nm, round shaft, oil seal	B
MSME042G1D	400W, 1.3Nm, round shaft, oil seal, holding brake	B
MSME042G1S	400W, 1.3Nm, key-way shaft	B
MSME042G1U	400W, 1.3Nm, key-way shaft, oil seal	A
MSME042G1V	400W, 1.3Nm, key-way shaft, oil seal, holding brake	B
MSME082G1C	750W, 2.4Nm, round shaft, oil seal	A
MSME082G1D	750W, 2.4Nm, round shaft, oil seal, holding brake	B
MSME082G1U	750W, 2.4Nm, key-way shaft, oil seal	A
MSME082G1V	750W, 2.4Nm, key-way shaft, oil seal, holding brake	B
MSME102G1G	1kW, 3.18Nm, key-way shaft, oil seal	B
MSME152G1G	1.5kW, 4.77Nm, key-way shaft, oil seal	B
MSME152G1H	1.5kW, 4.77Nm, key-way shaft, oil seal, holding brake	B
MSME154G1G	1.5kW, 4.77Nm, key-way shaft, oil seal	B
MSME304G1G	3kW, 9.55Nm, key-way shaft, oil seal	B
MSME304G1H	3kW, 9.55Nm, key-way shaft, oil seal, holding brake	A
MSME404G1H	4kW, 12.7Nm, key-way shaft, oil seal, holding brake	B
MSME504G1H	5kW, 15.9Nm, key-way shaft, oil seal, holding brake	B

Features

Advantages

- Ultra-compact
- Easy to use
- Cost-effective
- Frequency control with PLC pulse output is possible
- Various types with and without brake included
- Types:

  1-phase 230VAC: 0.2 to 1.5kW

  3-phase 400VAC: 0.75 to 3.7kW

VF-0

Inverter

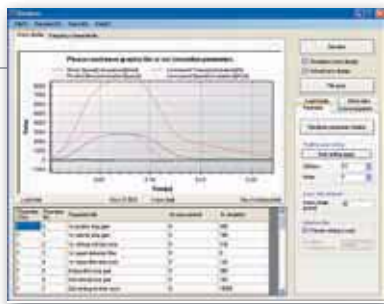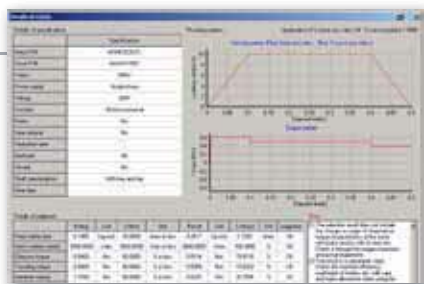| Part number	VF0 inverter, 1-phase	Stock type
BFV00022DK	0.2kW, 1x 230V, 50/60Hz, without brake	A
BFV00042DK	0.4kW, 1x 230V, 50/60Hz, without brake	A
BFV00042GK	0.4kW, 1x 230V, 50/60Hz, with brake	B
BFV00072DK	0.75kW, 1x 230V, 50/60Hz, without brake	A
BFV00072GK	0.75kW, 1x 230V, 50/60Hz, with brake	B
BFV00152DK	1.5kW, 1x 230V, 50/60Hz, without brake	A
BFV00152GK	1.5kW, 1x 230V, 50/60Hz, with brake	B

Part number	VF0 inverter, 3-phase	Stock type
BFV00074	0.75kW, 3 x 400V, 50/60Hz	B
BFV00154	1.5kW, 3 x 400 - 460V, 50/60Hz	B
BFV00224	2.2kW, 3 x 400 - 460V, 50/60Hz	B
BFV00374	3.7kW, 3 x 400 - 460V, 50/60Hz	B

Features

Real-time auto-gain tuning

- After installation, tuning is performed automatically upon completion of several operations. When the response frequency has been adjusted, simple tuning results in a change to a single parameter value, and fine-tuning can be carried out by activating the gain adjustment mode in the setup software. The automatic vibration suppression function minimizes equipment damage.

PANATERM® software

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M select software

for MINAS A5 series
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Features

Use this software to conveniently select suitable MINAS series AC motors and servo drives by specifying the motor load, type of motion and other relevant parameters.

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