

LOGO! logic module



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Overview



LOGO! logic module

- The compact, easy-to-use and low-cost solution for simple control tasks
- Compact, easy to operate, universally applicable without accessories
- "All in one": Integrated display and operator panel
- 34 different functions can be linked by pressing a key or with PC software; up to a total of 130 times
- Functions can be changed easily at the touch of a button. No need for complex and time-consuming rewiring

SIPLUS LOGO! logic module

- The PLC for use in the harshest environmental conditions
- With extended temperature range from -25 to +70°C
- Suitable for extraordinary medial load (pollution gas atmosphere)
- Occasional short-term condensation and increased mechanical loading permissible
- With the proven PLC technology of the S7-200
- Convenient handling, programming, maintenance and service
- Ideal for use in the automotive industry, environmental technology, mining, chemical plants, production technology, food industry etc.
- The alternative to expensive custom solutions

More Information you can find at:

<http://www.siemens.com/siplus>

General technical specifications SIPLUS LOGO!

Ambient temperature	
Temperature	Horizontal mounting: -25 °C to 70 °C Vertical mounting: -25 °C to 50 °C
Relative humidity	5 to 95%; transient condensation permissible, corresponding to relative humidity (RH-) stress grade 2 according to IEC 1131-2 and IEC 721 3-3 Cl. 3K5
Transient icing	-25 °C to 0 °C IEC 721 3-3 Cl. 3K5
Atmospheric pressure	1080 to 795 hPa corresponding to a height of -1000 to 2000 m
Pollutant concentration	SO ₂ : < 0,5 ppm; relative humidity <60% Test: 10 ppm, 4 days H ₂ S: < 0,1 ppm; relative humidity <60% Test: 1 ppm, 4 days (according to IEC 721 3-3; Class 3C3)
Mechanical environmental conditions	
Vibrations	Type of vibration: frequency progressions changing at 1 octave per minute. 2 Hz ≤ f ≤ 9 Hz, constant amplitude 3,0 mm 9 Hz ≤ f ≤ 150 Hz, constant acceleration 1 g; Duration of vibration: 10 frequency progressions per axis in each direction of the three mutually perpendicular axes; Vibration testing according to IEC 68 section 2-6 (Sinus) and IEC 721 3-3, Class 3M4
Shock	Type of shock: semisinusoidal shock strength: 15 g peak value, duration shock direction 11 ms: 3 shocks each in +/- direction on each of the mutually perpendicular axes Shock testing according to IEC 68 section 2-27
Conformity	EN 50155 (railroad applications - electrical device on rail vehicles)

Overview



- The space-saving basic versions
- With interface for connection of expansion modules

Technical specifications

	6ED1 052-1CC00-0BA4	6ED1 052-1MD00-0BA4	6ED1 052-1HB00-0BA4	6ED1 052-1FB00-0BA4
Supply voltages				
Rated value				
- 12 V DC		Yes		
- 24 V DC	Yes	Yes	Yes	
- 115 V DC				Yes
- 230 V DC				Yes
- permissible range, lower limit (DC)	20.4 V	10.8 V	20.4 V	100 V
- permissible range, upper limit (DC)	28.8 V	28.8 V	28.8 V	253 V
- 115 V AC				Yes
- 230 V AC				Yes
- permissible range, lower limit (AC)			20.4 V	85 V
- permissible range, upper limit (AC)			26.4 V	265 V
Time				
Time switches				
- Reserve power		80 h	80 h	80 h
•Number of digital inputs	8; of which 2 can be for analog use (0..10V)	8; of which 2 can be for analog use (0..10V)	8	8
Digital outputs				
•Number of digital outputs	4; Transistor	4; Relay	4; Relay	4; Relay
•Short-circuit protection of the output	Yes; electric (1 A)	No; external fusing required	No; external fusing required	No; external fusing required
Relay outputs				
Switching capacity of the contacts				
- at inductive load, max.		3 A	3 A	3 A
- at resistive load, max.	0.3 A	10 A	10 A	10 A
EMC				
•Emission of radio interference to comply with EN 55 011 (limit class B)	Yes	Yes	Yes	Yes
Environmental requirements				
Operating temperature				
- min.	0 °C	0 °C	0 °C	0 °C
- max.	55 °C	55 °C	55 °C	55 °C
Degree of protection and class of protection				
- IP 20	Yes	Yes	Yes	Yes

Technical specifications (Continued)

	6ED1 052-1CC00-0BA4	6ED1 052-1MD00-0BA4	6ED1 052-1HB00-0BA4	6ED1 052-1FB00-0BA4
Standards, approvals, certification				
•CSA approval	Yes	Yes	Yes	Yes
•Developed to comply with IEC1131	Yes	Yes	Yes	Yes
•FM approval	Yes	Yes	Yes	Yes
•To comply with VDE 0631	Yes	Yes	Yes	Yes
•Shipbuilding approval	Yes	Yes	Yes	Yes
•UL approval	Yes	Yes	Yes	Yes
Dimensions and weight				
•Installation	on 35 mm DIN rail 4 modules wide	on 35 mm DIN rail 4 modules wide	on 35 mm DIN rail 4 modules wide	on 35 mm DIN rail 4 modules wide
•Width	72 mm	72 mm	72 mm	72 mm
•Height	90 mm	90 mm	90 mm	90 mm
•Depth	55 mm	55 mm	55 mm	55 mm

Ordering Data

Ordering Data	Order No.
LOGO! 24 Power supply 24 V DC, 8 digital inputs 24 V DC, of which 2 can be used in analog mode (0 to 10 V), 4 digital outputs 24 V DC, 0.3 A; 130 function blocks connectable, expandable by modular system	6ED1 052-1CC00-0BA4
LOGO! 12/24RC logic module Power supply 12/24 V DC, 8 digital inputs 12/24 V DC, of which 2 can be used in analog mode (0 to 10 V), 4 relay outputs 10 A, integral time switch; 130 function blocks connectable, expandable by modular system	6ED1 052-1MD00-0BA4
LOGO! 24RC logic module Power supply 24 V AC/DC, 8 digital inputs 24 V AC/DC, 4 relay outputs 10 A, integral time switch; 130 function blocks connectable, expandable by modular system	6ED1 052-1HB00-0BA4
LOGO! 230RC logic module Power supply 115/230 V AC/DC, 8 digital inputs 115/230 V AC/DC, 4 relay outputs 10 A, integral time switch; 130 function blocks connectable, expandable by modular system	6ED1 052-1FB00-0BA4

Accessories

Accessories	Order No.
LOGO! Manual German English French spanisch italienisch	6ED1 050-1AA00-0AE5 6ED1 050-1AA00-0BE5 6ED1 050-1AA00-0CE5 6ED1 050-1AA00-0DE5 6ED1 050-1AA00-0EE5
LOGO! Memory card for copying, with know-how protection	6ED1 056-5CA00-0BA0
LOGO!Soft Comfort V4.0^{B)} for programming on the PC in LAD/FBD; executes with Windows 95 onwards, Linux, MAC OSX; on CD-ROM	6ED1 058-0BA00-0YA0
LOGO!Soft Comfort Upgrade^{B)} V1.0 upwards to V4.0	6ED1 058-0CA00-0YE0
LOGO! PC cable for program transmission between LOGO! and PC	6ED1 057-1AA00-0BA0
LOGO! News Box, 12/24 V contains LOGO! 12/24RC, LOGO! PC cable, LOGO!Soft Comfort, Tips&Tricks manual, screwdriver, info material German ^{C)} English ^{C)}	6ED1 057-3BA00-0AA3 6ED1 057-3BA00-0BA3
LOGO! News Box, 230 V contains LOGO! 230RC, LOGO! PC cable, LOGO!Soft Comfort, Tips&Tricks manual, screwdriver, info material German ^{C)} English ^{C)}	6ED1 057-3AA00-0AA8 6ED1 057-3AA00-0BA8

B) Subject to export regulations: AL: N and ECCN: EAR99S

C) Subject to export regulations: AL: N and ECCN: EAR99T

Overview



- The basic versions at optimum cost
- With integrated interface for the connection of expansion modules

Technical specifications

	6ED1 052-2CC00-0BA4	6ED1 052-2MD00-0BA4	6ED1 052-2HB00-0BA4	6ED1 052-2FB00-0BA4
Supply voltages				
Rated value				
- 12 V DC		Yes		
- 24 V DC	Yes	Yes	Yes	
- 115 V DC				Yes
- 230 V DC				Yes
- permissible range, lower limit (DC)	20.4 V	10.8 V	20.4 V	100 V
- permissible range, upper limit (DC)	28.8 V	28.8 V	28.8 V	253 V
- 115 V AC				Yes
- 230 V AC				Yes
- permissible range, lower limit (AC)			20.4 V	85 V
- permissible range, upper limit (AC)			26.4 V	265 V
Time				
Time switches				
- Number		8	8	8
- Reserve power		80 h	80 h	80 h
•Number of digital inputs	8; of which 2 can be for analog use (0..10V)	8; of which 2 can be for analog use (0..10V)	8	8
Digital outputs				
•Number of digital outputs	4; Transistor	4; Relay	4; Relay	4; Relay
•Short-circuit protection of the output	Yes; electric (1 A)	No; external fusing required	No; external fusing required	No; external fusing required
Relay outputs				
Switching capacity of the contacts				
- at inductive load, max.		3 A	3 A	3 A
- at resistive load, max.	0.3 A	10 A	10 A	10 A
EMC				
•Emission of radio interference to comply with EN 55 011 (limit class B)		Yes	Yes	Yes
Environmental requirements				
Operating temperature				
- min.	0 °C	0 °C	0 °C	0 °C
- max.	55 °C	55 °C	55 °C	55 °C
Degree of protection and class of protection				
- IP 20	Yes	Yes	Yes	Yes

Technical specifications (Continued)

	6ED1 052-2CC00-0BA4	6ED1 052-2MD00-0BA4	6ED1 052-2HB00-0BA4	6ED1 052-2FB00-0BA4
Standards, approvals, certification				
•CSA approval	Yes	Yes	Yes	Yes
•Developed to comply with IEC1131	Yes	Yes	Yes	Yes
•FM approval	Yes	Yes	Yes	Yes
•To comply with VDE 0631	Yes	Yes	Yes	Yes
•Shipbuilding approval	Yes	Yes	Yes	Yes
•UL approval	Yes	Yes	Yes	Yes
Dimensions and weight				
•Installation	on 35 mm DIN rail 4 modules wide	on 35 mm DIN rail 4 modules wide	on 35 mm DIN rail 4 modules wide	on 35 mm DIN rail 4 modules wide
•Width	72 mm	72 mm	72 mm	72 mm
•Height	90 mm	90 mm	90 mm	90 mm
•Depth	55 mm	55 mm	55 mm	55 mm

Ordering Data

Ordering Data	Order No.
LOGO! 24o logic module Power supply 24 V DC, 8 digital inputs 24 V DC, of which 2 can be used in analog mode (0 to 10 V), 4 digital outputs 24 V DC, 0.3 A; without display and keyboard; 130 function blocks connectable, expandable by modular system	6ED1 052-2CC00-0BA4
LOGO! 12/24RCo logic module Power supply 12/24 V DC, 8 digital inputs 12/24 V DC, of which 2 can be used in analog mode (0 to 10 V), 4 relay outputs 10 A, integral time switch; without display and keyboard; 130 function blocks connectable, expandable by modular system	6ED1 052-2MD00-0BA4
LOGO! 24RCo logic module Power supply 24 V AC/DC, 8 digital inputs 24 V AC/DC, 4 relay outputs 10 A, integral time switch; without display and keyboard; 130 function blocks connectable, expandable by modular system	6ED1 052-2HB00-0BA4
LOGO! 230RCo logic module Power supply 115/230 V AC/DC, 8 digital inputs 115/230 V AC/DC, 4 relay outputs 10 A, integral time switch; without display and keyboard; 130 function blocks connectable, expandable by modular system	6ED1 052-2FB00-0BA4

Accessories

Accessories	Order No.
LOGO! Manual German English French Spanish Italian	6ED1 050-1AA00-0AE5 6ED1 050-1AA00-0BE5 6ED1 050-1AA00-0CE5 6ED1 050-1AA00-0DE5 6ED1 050-1AA00-0EE5
LOGO! Memory Card for copying, with know-how protection	6ED1 056-5CA00-0BA0
LOGO!Soft Comfort V4.0^{B)} for programming on the PC in LAD/FBD; executes with Windows 95 onwards, Linux, MAC OSX; on CD-ROM	6ED1 058-0BA00-0YA0
LOGO!Soft Comfort Upgrade^{B)} V1.0 upwards to V4.0	6ED1 058-0CA00-0YE0
LOGO! PC cable for program transmission between LOGO! and PC	6ED1 057-1AA00-0BA0
LOGO! News Box, 12/24 V contains LOGO! 12/24RC, LOGO! PC cable, LOGO!Soft Comfort, Tips&Tricks manual, screwdriver, info material German ^{C)} English ^{C)}	6ED1 057-3BA00-0AA3 6ED1 057-3BA00-0BA3
LOGO! News Box, 230 V contains LOGO! 230RC, LOGO! PC cable, LOGO!Soft Comfort, Tips&Tricks manual, screwdriver, info material German ^{C)} English ^{C)}	6ED1 057-3AA00-0AA8 6ED1 057-3AA00-0BA8

B) Subject to export regulations: AL: N and ECCN: EAR99S

C) Subject to export regulations: AL: N and ECCN: EAR99T

Overview



- Expansion modules for the connection to LOGO! semi-modular
- With digital inputs and outputs or analog inputs

Technical specifications

	6ED1 055-1CB00-0BA0	6ED1 055-1HB00-0BA0	6ED1 055-1MB00-0BA1	6ED1 055-1FB00-0BA1
Supply voltages				
Rated value				
- 12 V DC			Yes	
- 24 V DC	Yes	Yes	Yes	
- 115 V DC				Yes
- 230 V DC				Yes
- permissible range, lower limit (DC)	20.4 V	20.4 V	10.8 V	100 V
- permissible range, upper limit (DC)	28.8 V	28.8 V	28.8 V	253 V
- 115 V AC				Yes
- 230 V AC				Yes
- permissible range, lower limit (AC)		20.4 V		85 V
- permissible range, upper limit (AC)		26.4 V		265 V
Digital inputs				
•Number of digital inputs	4	4	4	4
Digital outputs				
•Number of digital outputs	4	4; Relay	4; Relay	4; Relay
•Short-circuit protection of the output	Yes; electric (1 A)	No; external fusing required	No; external fusing required	No; external fusing required
Relay outputs				
Switching capacity of the contacts				
- at inductive load, max.		3 A	3 A	3 A
- at resistive load, max.		5 A	5 A	5 A
- Continuous thermal current, max.	0.3 A			
EMC				
•Emission of radio interference to comply with EN 55 011 (limit class B)	Yes	Yes	Yes	Yes
Environmental requirements				
Operating temperature				
- min.	0 °C	0 °C	0 °C	0 °C
- max.	55 °C	55 °C	55 °C	55 °C
Degree of protection and class of protection				
- IP 20	Yes	Yes	Yes	Yes

Technical specifications (Continued)

	6ED1 055-1CB00-0BA0	6ED1 055-1HB00-0BA0	6ED1 055-1MB00-0BA1	6ED1 055-1FB00-0BA1
Standards, approvals, certification				
•CSA approval	Yes	Yes	Yes	Yes
•Developed to comply with IEC1131	Yes	Yes	Yes	Yes
•FM approval	Yes	Yes	Yes	Yes
•To comply with VDE 0631	Yes	Yes	Yes	Yes
•Shipbuilding approval	Yes	Yes	Yes	Yes
•UL approval	Yes	Yes	Yes	Yes
Dimensions and weight				
•Installation	on 35 mm DIN rail, 2 modules wide	on 35 mm DIN rail, 2 modules wide	on 35 mm DIN rail, 2 modules wide	on 35 mm DIN rail, 2 modules wide
•Width	36 mm; 2 TE	36 mm; 2 TE	36 mm; 2 TE	36 mm; 2 TE
•Height	90 mm	90 mm	90 mm	90 mm
•Depth	55 mm	55 mm	55 mm	55 mm

	6ED1 055-1MA00-0BA0	6ED1 055-1MD00-0BA0
Supply voltages		
Rated value		
- 12 V DC	Yes	Yes
- 24 V DC	Yes	Yes
Analog inputs		
•Number of analog inputs	2	2
Input ranges (rated values), voltages		
- Voltage	Yes	
- 0 to +10 V	Yes	
Input ranges (rated values), currents		
- Current	Yes	
- 0 to 20 mA	Yes	
- Resistance thermometer		Yes
- Pt 100		Yes
EMC		
•Emission of radio interference to comply with EN 55 011 (limit class B)	Yes	Yes
Environmental requirements		
Operating temperature		
- min.	0 °C	0 °C
- max.	55 °C	55 °C
Degree of protection and class of protection		
- IP 20	Yes	Yes
Standards, approvals, certification		
•CSA approval	Yes	Yes
•Developed to comply with IEC1131	Yes	Yes
•FM approval	Yes	Yes
•To comply with VDE 0631	Yes	Yes
•Shipbuilding approval	Yes	Yes
•UL approval	Yes	Yes
Dimensions and weight		
•Installation	on 35 mm DIN rail, 2 modules wide	on 35 mm DIN rail, 2 modules wide
•Width	36 mm	36 mm
•Height	90 mm	90 mm
•Depth	55 mm	55 mm

Ordering Data	Order No.	Order No.
LOGO! DM8 24 24 V DC supply voltage, 4 digital inputs 24 V DC, 4 digital outputs 24 V DC, 0.3 A	6ED1 055-1CB00-0BA0	
LOGO! DM8 12/24R 12/24 V DC supply voltage, 4 digital inputs 12/24 V DC, 4 relay outputs 5 A	6ED1 055-1MB00-0BA1	
LOGO! DM8 24R 24 V AC/DC supply voltage, 4 digital inputs 24 V AC/DC, 4 relay outputs 5 A	6ED1 055-1HB00-0BA0	
LOGO! DM8 230R 115/230 V AC/DC supply voltage, 4 digital inputs 115/230 V AC/DC, 4 relay outputs 5 A	6ED1 055-1FB00-0BA1	
LOGO! DM16 24 24 V DC supply voltage, 8 digital inputs 24 V DC, 8 digital outputs 24 V DC, 0.3 A	6ED1 055-1CB10-0BA0	
LOGO! DM16 24R 24 V DC supply voltage, 8 digital inputs 24 V DC, 8 relay outputs 5 A	6ED1 055-1NB10-0BA0	
LOGO! DM16 230R 115/230 V AC/DC supply voltage, 8 digital inputs 115/230 V AC/DC, 8 relay outputs 5 A	6ED1 055-1FB10-0BA1	
LOGO! AM2 12/24 V DC supply voltage, 2 analog inputs 0 to 10 V or 0 to 20 mA, 10-bit resolution	6ED1 055-1MA00-0BA0	
LOGO! AM2 PT 100 12/24 V DC supply voltage, 2 Pt100 analog inputs, tempera- ture range -50 °C to 200 °C	6ED1 055-1MD00-0BA0	
		Accessories
		LOGO! Manual
		German 6ED1 050-1AA00-0AE5
		English 6ED1 050-1AA00-0BE5
		French 6ED1 050-1AA00-0CE5
		Spanish 6ED1 050-1AA00-0DE5
		Italian 6ED1 050-1AA00-0EE5
		LOGO! Memory Card 6ED1 056-5CA00-0BA0
		For copying, with know-how pro- tection
		LOGO!Soft Comfort V4.0 ^{B)} 6ED1 058-0BA00-0YA0
		For programming on the PC in LAD/FDP; executable on Windows 95 and higher, Linux, MAC OSX; on CD-ROM
		LOGO!Soft Comfort Upgrade ^{B)} 6ED1 058-0CA00-0YE0
		from V1.0 to V4.0
		LOGO! PC cable 6ED1 057-1AA00-0BA0
		For transferring programs bet- ween LOGO! and the PC
		LOGO! News Box, 12/24 V
		Contains LOGO! 12/24RC, LOGO! PC cable, LOGO!Soft Comfort, Tips&Tricks manual, screwdriver, information material
		German ^{C)} 6ED1 057-3BA00-0AA3
		English ^{C)} 6ED1 057-3BA00-0BA3
		LOGO! News Box, 230 V
		Contains LOGO! 230RC, LOGO! PC cable, LOGO!Soft Comfort, Tips&Tricks manual, screwdriver, information material
		German ^{C)} 6ED1 057-3AA00-0AA8
		English ^{C)} 6ED1 057-3AA00-0BA8

B) Subject to export regulations: AL: N and ECCN: EAR99S

C) Subject to export regulations: AL: N and ECCN: EAR99T

Overview



- Expansion module for LOGO! basic versions
- For communication between the LOGO! master and external *EIB* components through *EIB*

Technical specifications

CM EIB/KNX	
Supply voltage	24 V AC/DC
Inputs, max.	16 DE/12 DA/8 AE/2 AA
Outputs, max.	16 digital
Continuous current	25 mA
Short-circuit protection	External fuse protection is required
Integrated time switches/power reserve	–
Ambient temperature	0 to +55 °C
RI specification	To EN 55 011 (limit class B)
Degree of protection	IP20
Certification	to VDE 0631, IEC61131-2, cULus, FM
Mounting	On DIN rail 35 mm, 2 module widths wide
Dimensions (W x H x D) in mm	36 (2 TE) x 90 x 55

Ordering Data

LOGO!^{A)} CM EIB KNX communications module
 For connecting to *EIB*, 24 V DC supply voltage

Order No.

6BK1 700-0BA00-0AA1

Accessories

LOGO! Manual

German
 English
 French
 Spanish
 Italian

6ED1 050-1AA00-0AE5
6ED1 050-1AA00-0BE5
6ED1 050-1AA00-0CE5
6ED1 050-1AA00-0DE5
6ED1 050-1AA00-0EE5

A) Subject to export regulations: AL: N and ECCN: EAR99H

Overview

Each LOGO! can now be connected to the AS-Interface system



An intelligent slave can be integrated into the AS-Interface system with the AS-Interface for LOGO!. The modular interface allows the different basic units to be integrated into the system depending on the required functionality. In addition, the functionality can be quickly and simply adapted to changed requirements by replacing the basic unit.

The interface provides four inputs and four outputs for the system. These I/Os, however, are not implemented in hardware, but are only virtually available via the interface.

Technical specifications

Supply voltage in V	24 V DC	
Inputs/outputs	4 / 4 (virtual inputs/outputs)	
Bus connection	AS-Interface according to specification	
Ambient temperature in °C	0 ... +55	
Degree of protection	IP20	
Mounting	onto standard mounting rail	
Dimensions (W x H x D) in mm	36 x 90 x 58	
LED displays	LED	Status
	Green	OK
	Red	No data traffic
	Flashes red/yellow	Zero address

Ordering Data

Order No.

AS-Interface connection for LOGO!

3RK1 400-0CE10-0AA2

Application



LOGO!Power supplies are primary switched-mode power supplies that are optimized to the LOGO! logic modules in terms of functionality and design.

In accordance with the required performance, the LOGO!Power supplies are available in two sizes, whereby the new generation is now even more compact despite the extended functionality. The width of the smaller type is only 54 mm now instead of the previous 72 mm and the larger type has been reduced in size from 126 mm to 72 mm. An extremely compact 4 A type with only 90 mm width completes the LOGO!Power family. An LED indicates whether the output voltage level is correct and, in the event

of an overload or short-circuit, the primary switched-mode regulator delivers a constant current, i.e. without restart attempts.

LOGO!Power naturally supplies the small LOGO! control modules. They can, however, also be used elsewhere. Apart from their function as system power supplies, LOGO!Power is also suitable for supplying other consumers in the low-end performance range. With the wide input range of 85 V to 264 V AC and radio interference level B, they can be used universally in a diverse range of applications in the low-end performance range. Because the advantages of the primary switched-mode regulator convince customers right down the line.

For example:

- Enhanced protection of connected loads thanks to the regulated output voltage
- Low power loss in the control cabinet thanks to the high efficiency
- Compact design and low weight.

And LOGO!Power is predestined for equipment combinations in standard N distribution boards thanks to

- Mounting on a 35 mm standard rail
- Low mounting depth and stepped cross-section.

Of course, the power supplies comply with the relevant European and American regulations.

Technical specifications LOGO!Power 12 V

Type	12 V/1.9 A	12 V /4.5 A
Order No.	6EP1 321-1SH02	6EP1 322-1SH02
Input	Single-phase AC	Single-phase AC
Rated voltage $V_{in \text{ rated}}$	100-240 V AC wide-range input	100-240 V AC wide-range input
Voltage range	85 V to 264 V AC	85 V to 264 V AC
Overvoltage protection	$2.3 \times V_{in \text{ rated}}/1.3 \text{ ms}$	$2.3 \times V_{in \text{ rated}}/1.3 \text{ ms}$
Mains buffering at $I_{out \text{ rated}}$	> 40 ms at $V_{in} = 187 \text{ V}$	> 40 ms at $V_{in} = 187 \text{ V}$
Rated mains frequency, range	50/60 Hz; 47 to 63 Hz	50/60 Hz; 47 to 63 Hz
Rated current $I_{in \text{ rated}}$	0.53 - 0.3 A	1.13 - 0.43 A
Inrush current limitation (+25°C)	< 15 A	< 30 A
I^2t	< 0.8 A ² s	< 3 A ² s
Integrated line-side fuse	Internal	Internal
Recommended circuit-breaker (IEC 898) in mains supply line	From 16 A Characteristic B or from 10 A Characteristic C	From 16 A Characteristic B or from 10 A Characteristic C
Output	Stabilized, floating direct voltage	Stabilized, floating direct voltage
Rated voltage $V_{out \text{ rated}}$	12 V DC	12 V DC
Total tolerance, static	± 3 %	± 3 %
•Static mains compensation	Approx. 0.2 %	Approx. 0.1 %
•Static load stabilization	Approx. 1.5 %	Approx. 1.5 %
Residual ripple (frequency approx. 90 kHz)	< 200 mV _{pp}	< 200 mV _{pp}
Spikes (bandwidth approx. 20 MHz)	< 300 mV _{pp}	< 300 mV _{pp}
Setting range	10.5 to 16.1 V	10.5 to 16.1 V

Technical specifications LOGO!Power 12 V (Continued)

Type	12 V/1.9 A	12 V /4.5 A
Order No.	6EP1 321-1SH02	6EP1 322-1SH02
Status display	Green LED for output voltage OK	Green LED for output voltage OK
Power ON/OFF behavior	No overshoot of V _{out} (soft start)	No overshoot of V _{out} (soft start)
Starting delay/voltage rise	< 0.5 s/typ. 15 ms	< 0.5 s/typ. 10 ms
Rated current I _{outrated}	1.9 A	4.5 A
Current range up to +55 °C	0 to 1.9 A	0 to 4.5 A
Parallel connection for increased output	Yes	Yes
Efficiency		
Efficiency at V _{outrated} , I _{out rated}	typ. 80 %	typ. 85 %
Power loss at V _{outrated} , I _{out rated}	typ. 5 W	typ. 10 W
Control		
Dyn. mains compensation (V _{out rated} ± 15%)	< 0.2 % V _{out}	< 0.2 % V _{out}
Dyn. load compensation (I _{out} :10/90/10 %)	± 3 % V _{out}	± 4.2 % V _{out}
Settling time		
• Load step from 10 to 90%	typ. 20 ms	typ. 20 ms
• Load step from 90 to 10%	typ. 20 ms	typ. 20 ms
Protection and monitoring		
Current limitation	typ. 2.5 A	typ. 5.9 A
Short-circuit protection	Constant current characteristic	Constant current characteristic
Continuous rms short-circuit current	< 4 A	< 8 A
Overload/short-circuit indicator	-	-
Safety		
Galvanic isolation primary/secondary	Yes, SELV output voltage V _{out} acc. to EN 60950 and EN 50178	Yes, SELV output voltage V _{out} acc. to EN 60950 and EN 50178
Protective class	Class II (without PE conductor)	Class II (without PE conductor)
CE-marking	Yes	Yes
UL/cUL (CSA), approval	Yes, cULus listed (UL 508, CSA 22.2 No. 14-M95), File E197259; cURus recognized (UL 60950, CSA22.2 No. 60950), File E151273	Yes, cULus listed (UL 508, CSA 22.2 No. 14-M95), File E197259; cURus recognized (UL 60950, CSA22.2 No. 60950), File E151273
FM approval	Yes, Class I Div. 2, Group A, B, C, D T4	Yes, Class I Div. 2, Group A, B, C, D T4
Appr. for use in marine vessels	Yes, GL, ABS	Yes, GL, ABS
Degree of protection (EN 60 529)	IP20	IP20
EMC		
Interference emission	EN 55022 Class B	EN 55022 Class B
Line harmonics limitation	Not applicable	Not applicable
Interference immunity	EN 61000-6-2	EN 61000-6-2
Operational data		
Ambient temperature range	-20 to +55 °C with natural convection	-20 to +55 °C with natural convection
Transportation and storage temperature range	-40 to +70 °C	-40 to +70 °C
Humidity class	Climatic class 3K3 acc. to EN 60721, no condensation	Climatic class 3K3 acc. to EN 60721, no condensation
Mechanical specifications		
Connections		
• Mains input L1, N	One screw-type terminal each for 0.5 to 2.5 mm ² single-core/finely stranded	One screw-type terminal each for 0.5 to 2.5 mm ² single-core/finely stranded
• Output + • Output	2 screw-type terminals each for 0.5 to 2.5 mm ²	2 screw-type terminals each for 0.5 to 2.5 mm ²
Dimensions (W x H x D) in mm	54 x 90 x 55	72 x 90 x 55
Weight	Approx. 0.17 kg	Approx. 0.25 kg
Mounting	Snap-mounting on DIN rail EN 50022-35x15/7.5	Snap-mounting on DIN rail EN 50022-35x15/7.5

Technical specifications LOGO!Power 24 V

Type	24 V / 1.3 A	24 V / 2.5 A	24 V / 4 A
Order No.	6EP1 331-1SH02	6EP1 332-1SH42	6EP1 332-1SH51
Input	Single-phase AC	Single-phase AC	Single-phase AC
Rated voltage $V_{in rated}$	100 to 240 V AC wide-range input	100 to 240 V AC wide-range input	100 to 240 V AC wide-range input
Voltage range	85 to 264 V AC	85 to 264 V AC	85 to 264 V AC
Overvoltage strength	$2.3 \times V_{in rated} / 1.3 \text{ ms}$	$2.3 \times V_{in rated} / 1.3 \text{ ms}$	$2.3 \times V_{in rated} / 1.3 \text{ ms}$
Mains buffering at $I_{out rated}$	> 40 ms at $V_{in} = 187 \text{ V}$	> 40 ms at $V_{in} = 187 \text{ V}$	> 40 ms at $V_{in} = 187 \text{ V}$
Mains frequency nominal value and range	50/60 Hz; 47 to 63 Hz	50/60 Hz; 47 to 63 Hz	50/60 Hz; 47 to 63 Hz
Rated current $I_{in rated}$	0.7 - 0.35 A	1.22 - 0.66 A	1.95 - 0.97 A
Inrush current limiting (+25 °C)	< 15 A	< 30 A	< 30 A
I^2t	< 0.8 A ² s	< 3 A ² s	< 2.5 A ² s
Built-in input fuse	Internal	Internal	Internal
Recommended circuit-breaker (IEC 898) in mains supply line	From 16 A Characteristic B or from 10 A Characteristic C	From 16 A Characteristic B or from 10 A Characteristic C	From 16 A Characteristic B or from 10 A Characteristic C
Output	Stabilized, floating direct voltage	Stabilized, floating direct voltage	Stabilized, floating direct voltage
Rated voltage $V_{out rated}$	24 V DC	24 V DC	24 V DC
Total tolerance, static	± 3 %	± 3 %	± 3 %
•Static mains stabilization	Approx. 0.1 %	Approx. 0.1 %	Approx. 0.1 %
•Static load stabilization	Approx. 1.5 %	Approx. 1.5 %	Approx. 1.5 %
Residual ripple (frequency approx. 90 kHz)	< 200 mV _{pp}	< 200 mV _{pp}	< 200 mV _{pp}
Spikes (bandwidth approx. 20 MHz)	< 300 mV _{pp}	< 300 mV _{pp}	< 300 mV _{pp}
Setting range	22.2 to 26.4 V	22.2 to 26.4 V	22.2 to 26.4 V
Status display	Green LED for output voltage OK	Green LED for output voltage OK	Green LED for output voltage OK
Switch-On/Switch-Off response	No overshoot of V_{out} (soft start)	No overshoot of V_{out} (soft start)	No overshoot of V_{out} (soft start)
Starting delay/voltage rise	< 0.5 s/typ. 15 ms	< 0.5 s/typ. 10 ms	< 0.5 s/typ. 35 ms
Rated current $I_{out rated}$	1.3 A	2.5 A	4 A
Current range up to +55 °C	0 to 1.3 A	0 to 2.5 A	0 to 4 A
Parallel connection for increased output	Yes	Yes	Yes
Efficiency			
Efficiency at $V_{out rated}$, $I_{out rated}$	typ. 82 %	typ. 87 %	typ. 89 %
Power loss at $V_{out rated}$, $I_{out rated}$	typ. 7 W	typ. 9 W	typ. 12 W
Control			
Dyn. mains compensation ($V_{in rated} \pm 15 \%$)	< 0.2 % V_{out}	< 0.2 % V_{out}	< 0.2 % V_{out}
Dyn. load compensation (I_{out} : 10/90/10 %)	± 1.5 % V_{out}	± 1.5 % V_{out}	± 1.5 % V_{out}
Settling time			
•Load step from 10 to 90%	typ. 20 ms	typ. 20 ms	typ. 20 ms
•Load step from 90 to 10%	typ. 20 ms	typ. 20 ms	typ. 20 ms
Protection and monitoring			
Current limiting	typ. 2 A	typ. 3.4 A	typ. 4.7 A
Short-circuit protection	Constant current characteristic	Constant current characteristic	Constant current characteristic
Continuous short-circuit rms current	< 4 A	< 8 A	< 10 A
Overload/short-circuit indicator	-	-	-

Technical specifications LOGO!Power 24 V (Continued)

Type	24 V /1.3 A	24 V /2.5 A	24 V /4 A
Safety			
Galvanic isolation, primary/secondary	Yes, SELV output voltage V_{out} acc. to EN 60950 and EN 50178	Yes, SELV output voltage V_{out} acc. to EN 60950 and EN 50178	Yes, SELV output voltage V_{out} acc. to EN 60950 and EN 50178
Protective class	Class II (without PE conductor)	Class II (without PE conductor)	Class II (without PE conductor)
CE-marking	Yes	Yes	Yes
UL/cUL (CSA), approval	Yes, cULus listed (UL 508, CSA 22.2), File E197259; cURus recognized (UL 60950, CSA22.2), File E151273	Yes, cULus listed (UL 508, CSA 22.2), File E197259; cURus recognized (UL 60950, CSA22.2), File E151273	Yes, cULus listed (UL 508, CSA 22.2), File E197259; cURus recognized (UL 60950, CSA22.2), File E151273
FM approval	Yes, Class I Div. 2, Group A, B, C, D T4	Yes, Class I Div. 2, Group A, B, C, D T4	Available soon
Appr. for use in marine vessels	Yes, GL, ABS	Yes, GL, ABS	Yes, GL, ABS
Degree of protection (EN 60 529)	IP20	IP20	IP20
EMC			
Interference emission	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
Mains harmonics limitation	Not applicable	Not applicable	EN 61000-3-2
Interference immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
Operational data			
Ambient temperature range	-20 to +55°C with natural convection	-20 to +55°C with natural convection	-20 to +55°C with natural convection
Transport and storage temperature range	-40 to +70 °C	-40 to +70 °C	-40 to +70 °C
Humidity class	Climatic class 3K3 acc. to EN 60721, no condensation	Climatic class 3K3 acc. to EN 60721, no condensation	Climatic class 3K3 acc. to EN 60721, no condensation
Mechanical specifications			
Mains input connections L1, N	One screw-type terminal each for 0.5 to 2.5 mm ² single-core/finely stranded	One screw-type terminal each for 0.5 to 2.5 mm ² single-core/finely stranded	One screw-type terminal each for 0.5 to 2.5 mm ² single-core/finely stranded
Connections			
• Output +	2 screw-type terminals each for 0.5 to 2.5 mm ²	2 screw-type terminals each for 0.5 to 2.5 mm ²	2 screw-type terminals each for 0.5 to 2.5 mm ²
• Output			
Dimensions (W x H x D) in mm	54 x 90 x 55	72 x 90 x 55	90 x 90 x 55
Weight	Approx. 0.17 kg	Approx. 0.25 kg	Approx. 0.34 kg
Mounting	Snap-mounting on DIN rail EN 50022-35x15/7.5	Snap-mounting on DIN rail EN 50022-35x15/7.5	Snap-mounting on DIN rail EN 50022-35x15/7.5

Ordering Data

Order No.

LOGO!Power 12 V 1.9 A Input 100-240 V AC Output 12 V DC, 1.9 A	6EP1 321-1SH02
LOGO!Power 12 V 4.5 A Input 100-240 V AC Output 12 V DC, 4.5 A	6EP1 322-1SH02
LOGO!Power 24 V 1.3 A Input 100-240 V AC Output 24 V DC, 1.3 A	6EP1 331-1SH02
LOGO!Power 24 V 2.5 A Input 100-240 V AC Output 24 V DC, 2.5 A	6EP1 332-1SH42
LOGO!Power 24 V 4 A^{A)} Input 100-240 V AC Output 24 V DC, 4 A	6EP1 332-1SH51

A) Subject to export regulations: AL: N and ECCN: EAR99H

LOGO! logic module

LOGO!Contact

2

LOGO!Contact

Overview



- Switching module for the direct switching of resistive loads and motors

Technical specifications

	6ED1 057-4CA00-0AA0	6ED1 057-4EA00-0AA0
Dimensions and weight		
•Weight, approx.	160 g	160 g

Ordering Data

LOGO!Contact
 Module for direct switching of resistive consumers up to 20 A and motors up to 4 kW
 Switching voltage 24 V
 Switching voltage 230 V

Order No.

6ED1 057-4CA00-0AA0
6ED1 057-4EA00-0AA0

Overview



- The user-friendly software for creating control programs on a PC
- Creation of control programs in Control System Flowchart (CSF) or Ladder Diagram (LAD)
- Plus testing, simulation, online testing and archiving of control programs
- Professional documentation via numerous comment and print functions

Minimum system requirements

Windows 95/98, NT 4.0, ME, 2000 or XP

- Pentium PC
- 90 MB free disk space
- 64 MB RAM
- SVGA graphics card with minimum resolution 800x600 (256 colors)

Mac OS X

- PowerMac G3, G4, G4 Cube, iMac, PowerBook G3, G4 or iBook

Linux (tested using Caldera OpenLinux 2.4)

- Will function on all Linux distributions on which Java 2 SDK version 1.3.1 is running
- Please refer to your respective Linux distribution for the hardware requirements.

Ordering Data

Order No.

LOGO!Soft Comfort V4.0^{B)}

6ED1 058-0BA00-0YA0

For programming on the PC in LAD/SFC; executes on Windows 95 and higher, Linux, MAC OS X; on CD-ROM

LOGO!Soft Comfort Upgrade^{B)}

6ED1 058-0CA00-0YE0

V1.0 upwards to V4.0

B) Subject to export regulations: AL: N and ECCN: EAR99S

