

# LOGO! logic module



<b>2/2</b>	<b>Introduction</b>
2/2	LOGO! logic module
2/2	SIPLUS LOGO!
<b>2/3</b>	<b>LOGO! modular</b>
2/3	LOGO! modular basic variants
2/6	SIPLUS LOGO! modular basic variants
2/7	LOGO! modular pure variants
2/10	SIPLUS LOGO! modular pure variants
2/12	LOGO! modular expansion modules
2/16	SIPLUS LOGO! modular expansion modules
2/18	LOGO! CM EIB/KNX communications module
2/19	AS-Interface connection for LOGO!
<b>2/20</b>	<b>LOGO!Power</b>
<b>2/24</b>	<b>LOGO!Contact</b>
<b>2/24</b>	<b>LOGO! Software</b>

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# LOGO! logic module

## Introduction

2

### LOGO! logic module

#### 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
- 36 different functions can be connected at the click of a button or by means of PC software; up to 130 times over
- Functions are easily changed at the press of a key. No more time-consuming rewiring

#### SIPLUS LOGO!

- The PLC for use under harshest environmental conditions
- With extended temperature range from -25 °C to +70 °C (-40 °C to +70 °C for selected types)
- Suitable for use under medial load (pollution gas atmosphere)
- Occasional short-term condensation and increased mechanical loading permissible
- With the proven LOGO! PLC technology
- Convenient handling, programming, maintenance and service
- Ideal for use in the automative industry, environmental technology, mining, chemical plants, production technology, food industry, etc.
- The alternative for expensive custom solutions

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<http://www.siemens.com/simatic/printmaterial>

#### General technical data SIPLUS LOGO!

Climatic ambient conditions	
Temperature	Horizontal mounting: -40/-25 °C to +70 °C Vertical mounting: -40/-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 class 3K5
Transient icing	-40/-25 °C to 0 °C IEC 721 3-3 class 3K5
Air pressure	1080 class 795 hPa corresponding to a height of -1000 to 2000 m
Pollutant concentration	SO <sub>2</sub> : < 0,5 ppm; relative humidity <60%, test: 10 ppm, 4 days H <sub>2</sub> S: < 0,1 ppm; relative humidity <60%, test: 1 ppm, 4 days (according to IEC 721 3-3; class 3C3)
Mechanical ambient 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 11 ms, shock direction: 3 shocks each in +/- direction on each of the mutually perpendicular axes  Shock testing according to IEC 68 section 2-27

## Overview



- The space-saving basic variants
- Interface for the connection of expansion modules, up to 24 digital inputs, 16 digital outputs, 8 analog inputs and 2 analog outputs can be addressed.

## Technical specifications

	6ED1 052-1CC00-0BA5	6ED1 052-1MD00-0BA5	6ED1 052-1HB00-0BA5	6ED1 052-1FB00-0BA5
<b>Supply voltages</b>				
Rated value				
• 12 V		Yes		
• 24 V	Yes	Yes	Yes	
• 115 V				Yes
• 230 V				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
• 24 V AC			Yes	
• 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
<b>Time</b>				
Time switching clocks				
• Power reserve		80 h	80 h	80 h
<b>Digital inputs</b>				
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
<b>Digital outputs</b>				
Number of digital outputs	4; Transistor	4; Relay	4; Relay	4; Relay
Short-circuit protection of the output	Yes; electrical (1 A)	No; external fusing necessary	No; external fusing necessary	No; external fusing necessary

# LOGO! logic module

## LOGO! modular

2

### LOGO! modular basic variants

#### Technical specifications (continued)

	6ED1 052-1CC00-0BA5	6ED1 052-1MD00-0BA5	6ED1 052-1HB00-0BA5	6ED1 052-1FB00-0BA5
<b>Relay outputs</b>				
Switching capacity of the contacts				
• with inductive load, max.		3 A	3 A	3 A
• with resistive load, max.	0.3 A	10 A	10 A	10 A
<b>EMC</b>				
Emission of radio interference to EN 55 011 (limit class B)	Yes	Yes	Yes	Yes
<b>Environmental requirements</b>				
Operating temperature				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	55 °C	55 °C	55 °C	55 °C
Degree and class of protection				
• IP 20	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>				
CSA approval	Yes	Yes	Yes	Yes
developed to IEC1131	Yes	Yes	Yes	Yes
FM approval	Yes	Yes	Yes	Yes
to VDE 0631	Yes	Yes	Yes	Yes
Marine approval	Yes	Yes	Yes	Yes
UL Approval	Yes	Yes	Yes	Yes
<b>Dimensions and weight</b>				
Mounting	on 35 mm DIN rail, 4 spacing units wide	on 35 mm DIN rail, 4 spacing units wide	on 35 mm DIN rail, 4 spacing units wide	on 35 mm DIN rail, 4 spacing units 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	Order No.	Order No.
<b>LOGO! 24 Logic Module</b> 24 V DC power supply, 8 24 V DC digital inputs, of which 2 can be used in analog mode (0 to 10 V), 4 24 V DC digital outputs, 0,3 A; 130 function blocks can be inter- linked, modular expansion capability	<b>6ED1 052-1CC00-0BA5</b>	<b>LOGO! PROM</b> <sup>A)</sup> <b>6AG1 057-1AA01-0BA5</b> Programming device used to simultaneously reproduce program module contents on up to 8 program modules
<b>LOGO! 12/24RC Logic Module</b> 12/24 V DC power supply, 8 12/24 V DC digital inputs, of which 2 can be used in analog mode (0 to 10 V), 4 relay outputs 10 A, integral time switch; 130 function blocks can be inter- linked, modular expansion capability	<b>6ED1 052-1MD00-0BA5</b>	<b>LOGO!Soft Comfort V5.0</b> <b>6ED1 058-0BA01-0YA0</b> For programming on the PC in LAD/FBD; executes on Windows 98 SE and higher, Linux, MAC OSX; on CD-ROM
<b>LOGO! 24RC Logic Module</b> 24 V AC/DC power supply, 8 24 V AC/DC digital inputs, 4 relay outputs 10 A, integral time switch; 130 function blocks can be inter- linked, modular expansion capability	<b>6ED1 052-1HB00-0BA5</b>	<b>LOGO!Soft Comfort Upgrade</b> <b>6ED1 058-0CA01-0YE0</b> From V1.0 or higher to V5.0
<b>LOGO! 230RC Logic Module</b> 115/230 V AC/DC power supply, 8 115/230 V AC/DC digital inputs, 4 relay outputs 10 A, integral time switch; 130 function blocks can be inter- linked, modular expansion capability	<b>6ED1 052-1FB00-0BA5</b>	<b>LOGO! PC cable</b> <b>6ED1 057-1AA00-0BA0</b> For program transfer between LOGO! and the PC
<b>Accessories</b>		<b>Front panel mounting set</b> Width 4 width units <b>6AG1 057-1AA00-0AA0</b> Width 8 width units <b>6AG1 057-1AA00-0AA1</b> Width 8 width units, with keys <b>6AG1 057-1AA00-0AA2</b>
<b>LOGO! Manual</b> German <b>6ED1 050-1AA00-0AE6</b> English <b>6ED1 050-1AA00-0BE6</b> French <b>6ED1 050-1AA00-0CE6</b> Spanish <b>6ED1 050-1AA00-0DE6</b> Italian <b>6ED1 050-1AA00-0EE6</b>		<b>LOGO! News Box, 12/24 V</b> Contains LOGO! 12/24RC, LOGO! PC cable, LOGO!Soft Comfort, Tips&Tricks Manual, screw driver, information material German <sup>C)</sup> <b>6ED1 057-3BA00-0AA4</b> English <sup>C)</sup> <b>6ED1 057-3BA00-0BA4</b>
<b>LOGO! Memory Card</b> <b>6ED1 056-5CA00-0BA0</b> Program module for copying, with know-how protection		<b>LOGO! News Box, 230 V</b> Contains LOGO! 230RC, LOGO! PC cable, LOGO!Soft Comfort, Tips&Tricks Manual, screw driver, information material German <sup>C)</sup> <b>6ED1 057-3AA01-0AA0</b> English <sup>C)</sup> <b>6ED1 057-3AA01-0BA0</b>

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

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

# LOGO! logic module

## LOGO! modular

2

### SIPLUS LOGO! modular basic variants

#### Overview



- The space-saving basic variants
- Interface for the connection of expansion modules, up to 24 digital inputs, 16 digital outputs, 8 analog inputs and 2 analog outputs can be addressed

	SIPLUS LOGO! 24	SIPLUS LOGO! 12/24RC	SIPLUS LOGO! 24RC	SIPLUS LOGO! 230RC
<b>Order No.</b>	<b>6AG1 052-1CC00-2BA5</b>	<b>6AG1 052-1MD00-2BA5</b>	<b>6AG1 052-1HB00-2BA5</b>	<b>6AG1 052-1FB00-2BA5</b>
<b>Order No. based on</b>	<b>6ED1 052-1CC00-0BA5</b>	<b>6ED1 052-1MD00-0BA5</b>	<b>6ED1 052-1HB00-0BA5</b>	<b>6ED1 052-1FB00-0BA5</b>
Ambient temperature range	-25 to +70 °C -25 to +55 °C (for applications with cUL approval), condensation permissible			
Ambient conditions	Suitable for extraordinary medial load (for example by chloric and sulphuric atmospheres).			
Approvals	CE, cUL			
Technical data	The technical data are identical with the technical data of the based on modules.			

#### Ordering data

	Order No.		Order No.
<b>SIPLUS LOGO! 24</b> (extended temperature range and medial load) 24 V DC power supply, 8 24 V DC digital inputs, of which 2 can be used in analog mode (0 to 10 V), 4 24 V DC digital outputs, 0.3 A; 130 function blocks can be inter-linked, modular expansion capability	<b>6AG1 052-1CC00-2BA5</b>	<b>SIPLUS LOGO! 24RC</b> (extended temperature range and medial load) 24 V AC/DC power supply, 8 24 V AC/DC digital inputs, 4 relay outputs 10 A, integral time switch; 130 function blocks can be inter-linked, modular expansion capability	<b>6AG1 052-1HB00-2BA5</b>
<b>SIPLUS LOGO! 12/24RC</b> (extended temperature range and medial load) 12/24 V DC power supply, 8 12/24 V DC digital inputs, of which 2 can be used in analog mode (0 to 10 V), 4 relay outputs 10 A, integral time switch; 130 function blocks can be inter-linked, modular expansion capability	<b>6AG1 052-1MD00-2BA5</b>	<b>SIPLUS LOGO! 230RC</b> (extended temperature range and medial load) 115/230 V AC/DC power supply, 8 115/230 V AC/DC digital inputs, 4 relay outputs 10 A, integral time switch; 130 function blocks can be inter-linked, modular expansion capability	<b>6AG1 052-1FB00-2BA5</b>
		<b>Accessories</b>	see ordering data for LOGO! modular basic variants, page 2/5

## Overview



- Basic versions optimized for costs
- Interface for the connection of expansion modules, up to 24 digital inputs, 16 digital outputs, 8 analog inputs and 2 analog outputs can be addressed.

## Technical specifications

	6ED1 052-2CC00-0BA5	6ED1 052-2MD00-0BA5	6ED1 052-2HB00-0BA5	6ED1 052-2FB00-0BA5
<b>Supply voltages</b>				
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
• 24 V AC			Yes	
• 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
<b>Time</b>				
Time switching clocks				
• Number		8	8	8
• Power reserve		80 h	80 h	80 h
<b>Digital inputs</b>				
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
<b>Digital outputs</b>				
Number of digital outputs	4; Transistor	4; Relay	4; Relay	4; Relay
Short-circuit protection of the output	Yes; electrical (1 A)	No; external fusing necessary	No; external fusing necessary	No; external fusing necessary

# LOGO! logic module

## LOGO! modular

2

### LOGO! modular pure variants

#### Technical specifications (continued)

	6ED1 052-2CC00-0BA5	6ED1 052-2MD00-0BA5	6ED1 052-2HB00-0BA5	6ED1 052-2FB00-0BA5
<b>Relay outputs</b>				
Switching capacity of the contacts				
• with inductive load, max.		3 A	3 A	3 A
• with resistive load, max.	0.3 A	10 A	10 A	10 A
<b>EMC</b>				
Emission of radio interference to EN 55 011 (limit class B)		Yes	Yes	Yes
<b>Environmental requirements</b>				
Operating temperature				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	55 °C	55 °C	55 °C	55 °C
Degree and class of protection				
• IP 20	Yes	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>				
CSA approval	Yes	Yes	Yes	Yes
developed to IEC1131	Yes	Yes	Yes	Yes
FM approval	Yes	Yes	Yes	Yes
to VDE 0631	Yes	Yes	Yes	Yes
Marine approval	Yes	Yes	Yes	Yes
UL Approval	Yes	Yes	Yes	Yes
<b>Dimensions and weight</b>				
Mounting	on 35 mm DIN rail, 4 spacing units wide	on 35 mm DIN rail, 4 spacing units wide	on 35 mm DIN rail, 4 spacing units wide	on 35 mm DIN rail, 4 spacing units 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	Order No.	Order No.
<b>LOGO! 24o logic module</b> 24 V DC power supply, 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 can be inter- linked, modular expansion capability	<b>6ED1 052-2CC00-0BA5</b>	<b>Accessories</b> <b>LOGO! manual</b> German <b>6ED1 050-1AA00-0AE6</b> English <b>6ED1 050-1AA00-0BE6</b> French <b>6ED1 050-1AA00-0CE6</b> Spanish <b>6ED1 050-1AA00-0DE6</b> Italian <b>6ED1 050-1AA00-0EE6</b>
<b>LOGO! 12/24RCo logic module</b> 12/24 V DC power supply, 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 can be inter- linked, modular expansion capability	<b>6ED1 052-2MD00-0BA5</b>	<b>LOGO! Memory Card</b> <b>6ED1 056-5CA00-0BA0</b> Program module for copying, with know-how protection <b>LOGO! PROM</b> <sup>A)</sup> <b>6AG1 057-1AA01-0BA5</b> Programming device used to simultaneously reproduce program module contents on up to 8 program modules
<b>LOGO! 24RCo logic module</b> 24 V AC/DC power supply, 8 digital inputs 24 V AC/DC, 4 relay outputs 10 A, integral time switch; without display and keyboard; 130 function blocks can be inter- linked, modular expansion capability	<b>6ED1 052-2HB00-0BA5</b>	<b>LOGO!Soft Comfort V5.0</b> <b>6ED1 058-0BA01-0YA0</b> For programming on the PC in LAD/FBD; executes on Windows 98 SE and higher, Linux, MAC OSX; on CD-ROM <b>LOGO!Soft Comfort Upgrade</b> <b>6ED1 058-0CA01-0YE0</b> From V1.0 or higher to V5.0
<b>LOGO! 230RCo logic module</b> 115/230 V AC/DC power supply, 8 digital inputs 115/230 V AC/DC, 4 relay outputs 10 A, integral time clock; without display and keyboard; 130 function blocks can be inter- linked, modular expansion capability	<b>6ED1 052-2FB00-0BA5</b>	<b>LOGO! PC cable</b> <b>6ED1 057-1AA00-0BA0</b> For program transfer between LOGO! and the PC

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

# LOGO! logic module

## LOGO! modular

2

### SIPLUS LOGO! modular pure variants

#### Overview



- Basic variants optimized for costs
- Interface for the connection of expansion modules, up to 24 digital inputs, 16 digital outputs, 8 analog inputs and 2 analog outputs can be addressed
- 3 types with temperature range -40 °C to +70 °C

	SIPLUS LOGO! 24o	SIPLUS LOGO! 12/24RCo	SIPLUS LOGO! 24RCo	SIPLUS LOGO! 230RCo
<b>Order No.</b>	<b>6AG1 052-2CC00-2BA5</b>	<b>6AG1 052-2MD00-2BA5</b>	<b>6AG1 052-2HB00-2BA5</b>	<b>6AG1 052-2FB00-2BA5</b>
<b>Order No. based on</b>	<b>6ED1 052-2CC00-0BA5</b>	<b>6ED1 052-2MD00-0BA5</b>	<b>6ED1 052-2HB00-0BA5</b>	<b>6ED1 052-2FB00-0BA5</b>
Ambient temperature range	-25 to +70 °C -25 to +55 °C (for applications with cUL approval), condensation permissible			
Ambient conditions	Suitable for extraordinary medial load (for example by chloric and sulphuric atmospheres).			
Approvals	CE, cUL			
Technical data	The technical data are identical with the technical data of the based on modules.			

	SIPLUS LOGO! 24o	SIPLUS LOGO! 24RCo	SIPLUS LOGO! 230RCo
<b>Order No.</b>	<b>6AG1 052-2CC00-2BY5</b>	<b>6AG1 052-2HB00-2BY5</b>	<b>6AG1 052-2FB00-2BY5</b>
<b>Order No. based on</b>	<b>6ED1 052-2CC00-0BA5</b>	<b>6ED1 052-2HB00-0BA5</b>	<b>6ED1 052-2FB00-0BA5</b>
Ambient temperature range	-40 to +70 °C -25 to +55 °C (for applications with cUL approval), condensation permissible		
Ambient conditions	Suitable for extraordinary medial load (for example by chloric and sulphuric atmospheres).		
Approvals	CE, cUL (available soon)		
Technical data	The technical data are identical with the technical data of the based on modules.		

Ordering data	Order No.	Ordering data	Order No.
<b>SIPLUS LOGO! 24o</b> (extended temperature range and medial load) 24 V DC power supply, 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 can be inter-linked, modular expansion capability Temperature range -25 ... +70 °C Temperature range -40 ... +70 °C	<b>6AG1 052-2CC00-2BA5</b> <b>6AG1 052-2CC00-2BY5</b>	<b>SIPLUS LOGO! 24RCo</b> (extended temperature range and medial load) 24 V AC/DC power supply, 8 digital inputs 24 V AC/DC, 4 relay outputs 10 A, integral time switch; without display and keyboard; 130 function blocks can be inter-linked, modular expansion capability Temperature range -25 ... +70 °C Temperature range -40 ... +70 °C	<b>6AG1 052-2HB00-2BA5</b> <b>6AG1 052-2HB00-2BY5</b>
<b>SIPLUS LOGO! 12/24RCo</b> (extended temperature range and medial load) 12/24 V DC power supply, 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 can be inter-linked, modular expansion capability	<b>6AG1 052-2MD00-2BA5</b>	<b>SIPLUS LOGO! 230RCo</b> (extended temperature range and medial load) 115/230 V AC/DC power supply, 8 digital inputs 115/230 V AC/DC, 4 relay outputs 10 A, integral time clock; without display and keyboard; 130 function blocks can be inter-linked, modular expansion capability Temperature range -25 ... +70 °C Temperature range -40 ... +70 °C	<b>6AG1 052-2FB00-2BA5</b> <b>6AG1 052-2FB00-2BY5</b>
		<b>Accessories</b>	see LOGO! modular pure variants, page 2/9

# LOGO! logic module

## LOGO! modular

2

### LOGO! modular expansion modules

#### Overview



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

#### Technical specifications

	6ED1 055-1CB00-0BA0	6ED1 055-1HB00-0BA0	6ED1 055-1MB00-0BA1	6ED1 055-1FB00-0BA1
<b>Supply voltages</b>				
Rated value			Yes	
• 12 V DC			Yes	
• 24 V DC	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
• 24 V AC		Yes		
• 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
<b>Digital inputs</b>				
Number of digital inputs	4	4	4	4
<b>Digital outputs</b>				
Number of digital outputs	4	4; Relay	4; Relay	4; Relay
Short-circuit protection of the output	Yes; electrical (1 A)	No; external fusing necessary	No; external fusing necessary	No; external fusing necessary
<b>Relay outputs</b>				
Switching capacity of the contacts				
• with inductive load, max.		3 A	3 A	3 A
• with resistive load, max.		5 A	5 A	5 A
• Thermal continuous current, max.	0.3 A			
<b>EMC</b>				
Emission of radio interference to EN 55 011 (limit class B)	Yes	Yes	Yes	Yes
<b>Environmental requirements</b>				
Operating temperature				
• min.	0 °C	0 °C	0 °C	0 °C
• max.	55 °C	55 °C	55 °C	55 °C
Degree 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
<b>Standards, approvals, certificates</b>				
CSA approval	Yes	Yes	Yes	Yes
developed to IEC1131	Yes	Yes	Yes	Yes
FM approval	Yes	Yes	Yes	Yes
to VDE 0631	Yes	Yes	Yes	Yes
Marine approval	Yes	Yes	Yes	Yes
UL Approval	Yes	Yes	Yes	Yes
<b>Dimensions and weight</b>				
Mounting	on 35 mm DIN rail, 2 spacing units wide	on 35 mm DIN rail, 2 spacing units wide	on 35 mm DIN rail, 2 spacing units wide	on 35 mm DIN rail, 2 spacing units 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 055-1CB10-0BA0	6ED1 055-1NB10-0BA0	6ED1 055-1FB10-0BA0
<b>Supply voltages</b>			
Rated value	Yes	Yes	Yes
• 24 V DC			Yes
• 115 V DC			Yes
• 230 V DC			Yes
• permissible range, lower limit (DC)	20.4 V	20.4 V	100 V
• permissible range, upper limit (DC)	28.8 V	28.8 V	253 V
• 115 V AC			Yes
• 230 V AC			Yes
• permissible range, lower limit (AC)			85 V
• permissible range, upper limit (AC)			265 V
• permissible frequency range, lower limit			47 Hz
• permissible frequency range, upper limit			63 Hz
<b>Digital inputs</b>			
Number of digital inputs	8	8	8
Input voltage			
• for signal "0"	< 5 V DC	< 5 V DC	< 40 V AC; < 30 V DC
• for signal "1"	> 12 V DC	> 12 V DC	> 79 V AC; > 79 V DC

	6ED1 055-1CB10-0BA0	6ED1 055-1NB10-0BA0	6ED1 055-1FB10-0BA0
<b>Input current</b>			
• for signal "0", max. (permissible quiescent current)	1 mA	1 mA	0.03 mA
• for signal "1", typ.	2 mA	2 mA	0.08 mA
<b>Input delay (for rated value of input voltage)</b>			
• for standard inputs			
- at "0" to "1", max.	1.5 ms	1.5 ms	50 ms
- at "1" to "0", max.	1.5 ms	1.5 ms	50 ms
<b>Digital outputs</b>			
Number of digital outputs	8	8; Relay	8; Relay
Short-circuit protection of the output	Yes; electrical (1 A)	No; external fusing necessary	
Lamp load, max.		1,000 W; 500 W at 115 V AC	1,000 W; 500 W at 115 V AC
Controlling a digital input	Yes	Yes	Yes
<b>Parallel switching of 2 outputs</b>			
• for increased power	No	No	No

# LOGO! logic module

## LOGO! modular

2

### LOGO! modular expansion modules

#### Technical specifications (continued)

	6ED1 055-1CB10-0BA0	6ED1 055-1NB10-0BA0	6ED1 055-1FB10-0BA0
Switching frequency			
• with resistive load, max.	10 Hz	2 Hz	2 Hz
• with inductive load, max.	0.5 Hz	0.5 Hz	0.5 Hz
• mechanical, max.		10 Hz	10 Hz
<b>Relay outputs</b>			
Switching capacity of the contacts			
• with inductive load, max.		3 A	3 A
• with resistive load, max.		5 A	5 A
• Thermal continuous current, max.	0.3 A		
<b>EMC</b>			
Emission of radio interference to EN 55 011 (limit class B)	Yes	Yes	Yes
<b>Environmental requirements</b>			
Operating temperature			
• min.	0 °C	0 °C	0 °C
• max.	55 °C	55 °C	55 °C
Degree and class of protection			
• IP 20	Yes	Yes	Yes
<b>Standards, approvals, certificates</b>			
CSA approval	Yes	Yes	Yes
developed to IEC1131	Yes	Yes	Yes
FM approval	Yes	Yes	Yes
to VDE 0631	Yes	Yes	Yes
Marine approval	Yes	Yes	Yes
UL Approval	Yes	Yes	Yes
<b>Dimensions and weight</b>			
Mounting	on 35 mm DIN rail, 4 spacing units wide	on 35 mm DIN rail, 4 spacing units wide	on DIN rail 25 mm, 4 module spaces wide
Width	72 mm; 4 DU	72 mm; 4 DU	72 mm; 4 DU
Height	90 mm	90 mm	90 mm
Depth	53 mm	53 mm	53 mm

	6ED1 055-1MA00-0BA0	6ED1 055-1MD00-0BA0
<b>Supply voltages</b>		
Rated value		
• 12 V DC	Yes	Yes
• 24 V DC	Yes	Yes
<b>Analog inputs</b>		
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	
Input ranges (rated values), resistance thermometers		
• Resistance thermometer		Yes
• Pt 100		Yes
<b>EMC</b>		
Emission of radio interference to EN 55 011 (limit class B)	Yes	Yes
<b>Environmental requirements</b>		
Operating temperature		
• min.	0 °C	0 °C
• max.	55 °C	55 °C
Degree and class of protection		
• IP 20	Yes	Yes
<b>Standards, approvals, certificates</b>		
CSA approval	Yes	Yes
developed to IEC1131	Yes	Yes
FM approval	Yes	Yes
to VDE 0631	Yes	Yes
Marine approval	Yes	Yes
UL Approval	Yes	Yes
<b>Dimensions and weight</b>		
Mounting	on 35 mm DIN rail, 2 spacing units wide	on 35 mm DIN rail, 2 spacing units wide
Width	36 mm	36 mm
Height	90 mm	90 mm
Depth	55 mm	55 mm

#### Technical specifications (continued)

	6ED1 055-1MM00-0BA0
<b>Supply voltages</b>	
Rated value	
• 12 V DC	No
• 24 V DC	Yes
<b>Analog outputs</b>	
Number of analog outputs	2
Output ranges, voltage	
• 0 to 10 V	Yes
<b>EMC</b>	
Emission of radio interference to EN 55 011 (limit class B)	Yes
<b>Environmental requirements</b>	
Operating temperature	
• min.	0 °C
• max.	55 °C

	6ED1 055-1MM00-0BA0
Degree and class of protection	
• IP 20	Yes
<b>Standards, approvals, certificates</b>	
CSA approval	Yes
developed to IEC1131	Yes
FM approval	Yes
to VDE 0631	Yes
Marine approval	Yes
UL Approval	Yes
<b>Dimensions and weight</b>	
Mounting	on 35 mm DIN rail, 2 spacing units wide
Width	36 mm
Height	90 mm
Depth	55 mm

#### Ordering data

	Order No.
<b>LOGO! DM8 24</b>	<b>6ED1 055-1CB00-0BA0</b>
24 V DC supply voltage, 4 digital inputs 24 V DC, 4 digital outputs 24 V DC, 0.3 A	
<b>LOGO! DM16 24</b>	<b>6ED1 055-1CB10-0BA0</b>
24 V DC supply voltage, 8 digital inputs 24 V DC, 8 digital outputs 24 V DC, 0.3 A	
<b>LOGO! DM8 12/24R</b>	<b>6ED1 055-1MB00-0BA1</b>
12/24 V DC supply voltage, 4 digital inputs 12/24 V DC, 4 relay outputs 5 A	
<b>LOGO! DM8 24R</b>	<b>6ED1 055-1HB00-0BA0</b>
24 V AC/DC supply voltage, digital inputs 24 V AC/DC, 4 relay outputs 5 A	
<b>LOGO! DM16 24R</b>	<b>6ED1 055-1NB10-0BA0</b>
24 V DC supply voltage, 8 digital inputs 24V DC, 8 relay outputs 5 A	
<b>LOGO! DM8 230R</b>	<b>6ED1 055-1FB00-0BA1</b>
115/230 V AC/DC supply voltage, 4 digital inputs 115/230 V AC/DC, 4 relay outputs 5 A	
<b>LOGO! DM16 230R</b>	<b>6ED1 055-1FB10-0BA0</b>
115/230 V AC/DC supply voltage, 8 digital inputs 115/230 V AC/DC, 8 relay outputs 5 A	
<b>LOGO! AM2</b>	<b>6ED1 055-1MA00-0BA0</b>
12/24 V DC supply voltage, 2 analog inputs 0 to 10 V or 0 to 20 mA, 10-bit resolution	
<b>LOGO! AM2 PT 100</b>	<b>6ED1 055-1MD00-0BA0</b>
12/24 V DC supply voltage, 2 Pt100 analog inputs, temperature range -50 °C to 200 °C	

	Order No.
<b>LOGO! AM2 AQ</b>	<b>6ED1 055-1MM00-0BA0</b>
24 V DC supply voltage, 2 analog outputs 0 to 10 V	
<b>Accessories</b>	
<b>LOGO! manual</b>	
German	<b>6ED1 050-1AA00-0AE6</b>
English	<b>6ED1 050-1AA00-0BE6</b>
French	<b>6ED1 050-1AA00-0CE6</b>
Spanish	<b>6ED1 050-1AA00-0DE6</b>
Italian	<b>6ED1 050-1AA00-0EE6</b>
<b>LOGO! memory card</b>	<b>6ED1 056-5CA00-0BA0</b>
For copying, with know-how protection	
<b>LOGO!Soft Comfort V5.0</b>	<b>6ED1 058-0BA01-0YA0</b>
For programming on the PC in LAD/FDB; Executes under Windows 98 SE and higher, Linux, MAC OSX; on CD-ROM	
<b>LOGO!Soft Comfort upgrade</b>	<b>6ED1 058-0CA01-0YE0</b>
From V1.0 and higher to V5.0	
<b>LOGO! PC cable</b>	<b>6ED1 057-1AA00-0BA0</b>
For transferring programs between LOGO! and the PC	
<b>LOGO! News Box, 12/24 V</b>	
Contains LOGO! 12/24RC, LOGO! PC cable, LOGO!Soft Comfort, Tips & Tricks manual, screwdriver, documentation	
German	C) <b>6ED1 057-3BA00-0AA4</b>
English	C) <b>6ED1 057-3BA00-0BA4</b>
<b>LOGO! News Box, 230 V</b>	
Contains LOGO! 230RC, LOGO! PC cable, LOGO!Soft Comfort, Tips & Tricks manual, screwdriver, documentation	
German	C) <b>6ED1 057-3AA01-0AA0</b>
English	C) <b>6ED1 057-3AA01-0BA0</b>

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

# LOGO! logic module

## LOGO! modular

2

### SIPLUS LOGO! modular expansion modules

#### Overview



- Expansion modules for the connection to LOGO! modular
- With digital inputs and outputs, analog inputs or analog outputs
- 5 types with temperature range -40 °C to +70 °C

	SIPLUS LOGO! DM8 24	SIPLUS LOGO! DM8 12/24	SIPLUS LOGO! DM8 24R
Order No.	6AG1 055-1CB00-2XB0	6AG1 055-1PB00-2XB0 Supply voltage 12/24 V DC	6AG1 055-1HB00-2XB0
Order No. based on	6ED1 055-1CB00-0BA0	6ED1 055-1CB00-0BA0	6ED1 055-1HB00-0BA0
Ambient temperature range	-25 to +70 °C -25 to +55 °C (for applications with cUL approval), condensation permissible		
Ambient conditions	Suitable for extraordinary medial load (for example by chloric and sulphuric atmospheres).		
Approvals	CE, cUL		
Technical data	The technical data are identical with the technical data of the based on modules.		

	SIPLUS LOGO! DM8 12/24R	SIPLUS LOGO! DM8 230R	SIPLUS LOGO! AM2
Order No.	6AG1 055-1MB00-2XB1	6AG1 055-1FB00-2XB1	6AG1 055-1MA00-2XB0
Order No. based on	6ED1 055-1MB00-0BA1	6ED1 055-1FB00-0BA1	6ED1 055-1MA00-0BA0
Ambient temperature range	-25 to +70 °C -25 to +55 °C (for applications with cUL approval), condensation permissible		
Ambient conditions	Suitable for extraordinary medial load (for example by chloric and sulphuric atmospheres).		
Approvals	CE, cUL		
Technical data	The technical data are identical with the technical data of the based on modules.		

	SIPLUS LOGO! DM8 24	SIPLUS LOGO! DM8 24R	SIPLUS LOGO! DM8 12/24R	SIPLUS LOGO! DM8 230R	SIPLUS LOGO! AM2
Order No.	6AG1 055-1CB00-2BY0	6AG1 055-1HB00-2BY0	6AG1 055-1MB00-2BY1	6AG1 055-1FB00-2BY1	6AG1 055-1MA00-2BY0
Order No. based on	6ED1 055-1CB00-0BA0	6ED1 055-1HB00-0BA0	6ED1 055-1MB00-0BA1	6ED1 055-1FB00-0BA1	6ED1 055-1MA00-0BA0
Ambient temperature range	-40 to +70 °C -25 to +55 °C (for applications with cUL approval), condensation permissible				
Ambient conditions	Suitable for extraordinary medial load (for example by chloric and sulphuric atmospheres).				
Approvals	CE, cUL (available soon)				
Technical data	The technical data are identical with the technical data of the based on modules.				



Ordering data	Order No.	Ordering data	Order No.
<b>SIPLUS LOGO! DM8 24</b> (extended temperature range and medial load) 24 V DC supply voltage, 4 digital inputs 24 V DC, 4 digital outputs 24 V DC, 0.3 A Temperature range -25 ... +70 °C <sup>A)</sup> Temperature range -40 ... +70 °C	<b>6AG1 055-1CB00-2XB0</b> <b>6AG1 055-1CB00-2BY0</b>	<b>SIPLUS LOGO! DM8 12/24R</b> (extended temperature range and medial load) 12/24 V DC supply voltage, 4 digital inputs 12/24 V DC, 4 relay outputs 5 A Temperature range -25 ... +70 °C <sup>A)</sup> Temperature range -40 ... +70 °C	<b>6AG1 055-1MB00-2XB1</b> <b>6AG1 055-1MB00-2BY1</b>
<b>SIPLUS LOGO! DM8 12/24</b> (extended temperature range and medial load) 12/24 V DC supply voltage, 4 digital inputs 12/24 V DC, 4 digital outputs 24 V DC, 0.3 A	<b>6AG1 055-1PB00-2XB0</b>	<b>SIPLUS LOGO! DM8 230R</b> (extended temperature range and medial load) 115/230 V AC/DC supply voltage, 4 digital inputs 12/24 V DC, 4 relay outputs 5 A Temperature range -25 ... +70 °C <sup>B)</sup> Temperature range -40 ... +70 °C	<b>6AG1 055-1FB00-2XB1</b> <b>6AG1 055-1FB00-2BY1</b>
<b>SIPLUS LOGO! DM8 24R</b> (extended temperature range and medial load) 24 V AC/DC supply voltage, 4 digital inputs 24 V AC/DC, 4 relay outputs 5 A Temperature range -25 ... +70 °C <sup>B)</sup> Temperature range -40 ... +70 °C	<b>6AG1 055-1HB00-2XB0</b> <b>6AG1 055-1HB00-2BY0</b>	<b>SIPLUS LOGO! AM2</b> (extended temperature range and medial load) 12/24 V DC supply voltage, 2 analog inputs 0 to 10 V or 0 to 20 mA, 10-bit resolution Temperature range -25 ... +70 °C <sup>A)</sup> Temperature range -40 ... +70 °C	<b>6AG1 055-1MA00-2XB0</b> <b>6AG1 055-1MA00-2BY0</b>
		<b>Accessories</b>	see LOGO! modular expansion modules, page 2/15

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

B) Subject to export regulations: AL: N and ECCN: 4A994

# LOGO! logic module

## LOGO! modular

2

### LOGO! CM EIB/KNX communications module

#### Overview



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

#### Technical specifications

	<b>CM EIB/KNX</b>
Supply voltage	24 V AC/DC
Inputs, max.	16 DI/12 DO/8 AI/2 AO
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 MW) x 90 x 55

#### Ordering data

#### Order No.

##### Communications module LOGO! CM EIB/KNX

**6BK1 700-0BA00-0AA1**

For connecting to *EIB*, 24 V DC  
supply voltage

##### Accessories

##### LOGO! manual

German  
English  
French  
Spanish  
Italian

**6ED1 050-1AA00-0AE6**  
**6ED1 050-1AA00-0BE6**  
**6ED1 050-1AA00-0CE6**  
**6ED1 050-1AA00-0DE6**  
**6ED1 050-1AA00-0EE6**

### 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)	36 x 90 x 58	
Indications of the LEDs	<i>LED</i>	<i>Status</i>
	Green	OK
	Red	No data traffic
	Flashes red/yellow	Zero address

### Ordering data

### Order No.

**AS-Interface connection for LOGO!**

**3RK1 400-0CE10-0AA2**

# LOGO! logic module

## LOGO!Power

2

### LOGO!Power

#### Application



The power supplies of the LOGO!Power range are primary switched-mode devices that are optimally matched to the LOGO! logic modules in their functionality and design.

Depending on the power rating required, the LOGO!Power units are available in two sizes and the new generation is now even more compact despite increased functionality. The width of the small version is only 54 mm instead of 72 mm and the large size has shrunk from 126 mm to 72 mm. An extremely compact 4-A power supply with a width of only 90 mm now supplements the

24 V line. An LED indicates whether the output voltage is o.k., and in the event of an overload or short-circuit, the primary switched-mode regulators supply a constant current, that is, without restart attempts.

LOGO!Power naturally supplies the small LOGO! control modules. But these power supplies can also be used elsewhere. As well as being system power supplies, the LOGO!Power modules are also suitable for supplying other loads in the low-end performance range. With the wide-range input 85 V to 264 V AC and radio interference level B, they can be used universally in the most diverse application areas in the low-end performance range. Because the benefits of the primary switched-mode regulators convince all along the line.

For example:

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

And LOGO!Power is also predestined for networking devices in standard low-voltage distribution boards

- Can be installed on 35-mm mounting rail
- Low installation depth and stepped profile of the design.

The power supplies naturally comply with the relevant European and American regulations.

#### Technical specifications LOGO!power 12 V

Power supply, type	12 V/1.9 A	12 V/4.5 A
Order No.	6EP1 321-1SH02	6EP1 322-1SH02
<b>Input</b>	Single-phase AC	Single-phase AC
Rated voltage $V_{in \text{ rated}}$	<b>100 to 240 V AC</b> wide-range input	<b>100 to 240 V AC</b> wide-range input
Voltage range	85 to 264 V AC	85 to 264 V AC
Overvoltage strength	$2.3 \times V_{in \text{ rated}}/1.3 \text{ ms}$	$2.3 \times V_{in \text{ rated}}/1.3 \text{ ms}$
Mains buffering at $I_{out \text{ rated}}$	> 40 ms at $V_{in} = 187 \text{ V}$	> 40 ms at $V_{in} = 187 \text{ V}$
Rated line frequency; range	50/60 Hz; 47 to 63 Hz	50/60 Hz; 47 to 63 Hz
Rated current $I_{in \text{ rated}}$	0.53 to 0.3 A	1.13 to 0.61 A
Inrush current limitation (+25 °C)	< 15 A	< 30 A
$I^2t$	< 0,8 A <sup>2</sup> s	< 3 A <sup>2</sup> 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
<b>Output</b>	Stabilized, floating direct voltage	Stabilized, floating direct voltage
Rated voltage $V_{out \text{ rated}}$	<b>12 V DC</b>	<b>12 V DC</b>
Total tolerance, static	±3%	±3%
• Static mains compensation	Approx. 0.2%	Approx. 0.1%
• Static load compensation	Approx. 1.5%	Approx. 1.5%
Residual ripple (clock frequency approx. 90 kHz)	< 200 mV <sub>pp</sub>	< 200 mV <sub>pp</sub>
Spikes (bandwidth approx. 20 MHz)	< 300 mV <sub>pp</sub>	< 300 mV <sub>pp</sub>
Setting range	10.5 to 16.1 V	10.5 to 16.1 V
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

**Technical specifications LOGO!power 12 V** (continued)

<b>Power supply, type</b>	<b>12 V/1.9 A</b>	<b>12 V/4.5 A</b>
<b>Order No.</b>	<b>6EP1 321-1SH02</b>	<b>6EP1 322-1SH02</b>
Rated current $I_{\text{outrated}}$	<b>1.9 A</b>	<b>4.5 A</b>
Current range up to +55 °C	0 to 1.9 A	0 to 4.5 A
Parallel connection for increased output	Yes	Yes
<b>Efficiency</b>		
Efficiency at $V_{\text{outrated}}, I_{\text{out rated}}$	typ. 80%	typ. 85%
Power loss at $V_{\text{outrated}}, I_{\text{out rated}}$	typ. 5 W	typ. 10 W
<b>Control</b>		
Dyn. mains compensation ( $V_{\text{out rated}} \pm 15\%$ )	< 0,2% $U_a$	< 0,2% $U_a$
Dyn. load compensation ( $I_{\text{out}}: 10/90/10\%$ )	$\pm 3\% U_a$	$\pm 4,2\% U_a$
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
<b>Protection and monitoring</b>		
Current limitation	typ. 2.5 A	typ. 5.9 A
Short-circuit protection	Stabilized current characteristic	Stabilized current characteristic
RMS sustained short-circuit current	< 4 A	< 8 A
Overload/short-circuit indicator	-	-
<b>Safety</b>		
Galvanic isolation primary/secondary	Yes, SELV output voltage $V_{\text{out}}$ acc. to EN 60950 and EN 50178	Yes, SELV output voltage $V_{\text{out}}$ 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, CSA 22.2 No. 60950), File E151273	Yes, cULus listed (UL 508, CSA 22.2 No. 14-M95), File E197259; cURus recognized (UL 60950, CSA 22.2 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 60529)	IP20	IP20
<b>EMC</b>		
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
<b>Operating specifications</b>		
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 rating	Climatic class 3K3 acc. to EN 60721, no condensation	Climatic class 3K3 acc. to EN 60721, no condensation
<b>Mechanical specifications</b>		
Connections		
• Mains input L1, N	One screw-type terminal each for 0.5 to 2.5 mm <sup>2</sup> single-core/finely stranded	One screw-type terminal each for 0.5 to 2.5 mm <sup>2</sup> single-core/finely stranded
• Output +		
• Output -	2 screw-type terminals each for 0.5 to 2.5 mm <sup>2</sup>	2 screw-type terminals each for 0.5 to 2.5 mm <sup>2</sup>
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 50022-35x7.5/15	Snap-mounting on DIN rail EN 50022-35x7.5/15

# LOGO! logic module

## LOGO!Power

2

### LOGO!Power

#### Technical specifications LOGO!power 24 V

Typ	24 V/1.3 A	24 V/2.5 A	24 V/4 A
<b>Order number</b>	<b>6EP1 331-1SH02</b>	<b>6EP1 332-1SH42</b>	<b>6EP1 332-1SH51</b>
<b>Input</b>	Single-phase AC	Single-phase AC	Single-phase AC
Rated voltage $U_{in rated}$	<b>100 V - 240 V AC</b> wide-range input	<b>100 V - 240 V AC</b> wide-range input	<b>100 V - 240 V AC</b> wide-range input
Voltage range	85 V to 264 V AC	85 V to 264 V AC	85 V to 264 V AC
Overvoltage strength	$2.3 \times U_{in rated}/1.3 \text{ ms}$	$2.3 \times U_{in rated}/1.3 \text{ ms}$	$2.3 \times U_{in rated}/1.3 \text{ ms}$
Line buffering at $I_{out rated}$	> 40 ms at $U_{in} = 187 \text{ V}$	> 40 ms at $U_{in} = 187 \text{ V}$	> 40 ms at $U_{in} = 187 \text{ V}$
Rated line frequency, rated line-frequency range	50/60 Hz; 47 Hz to 63 Hz	50/60 Hz; 47 Hz to 63 Hz	50/60 Hz; 47 Hz to 63 Hz
Rated current $I_{in rated}$	0.7-0.35 A	1.22-0.66 A	1.95-0.97 A
Switch-on current limit (+25 °C)	< 15 A	< 30 A	< 30 A
$I^2t$	< 0.8 A <sup>2</sup> s	< 3 A <sup>2</sup> s	< 2.5 A <sup>2</sup> s
Built-in line-side fuse	Internal	Internal	Internal
Recommended miniature circuit-breaker (IEC 898) in the supply feeder	At and above 16 A, B characteristic or at and above 10 A, C characteristic	At and above 16 A, B characteristic or at and above 10 A, C characteristic	At and above 16 A, B characteristic or at and above 10 A, C characteristic
<b>Output</b>	Controlled, isolated DC voltage	Controlled, isolated DC voltage	Controlled, isolated DC voltage
Rated voltage $U_{out rated}$	<b>24 V DC</b>	<b>24 V DC</b>	<b>24 V DC</b>
Total tolerance, static	±3%	±3%	±3%
• Static line smoothing	Approx. 0.1%	Approx. 0.1%	Approx. 0.1%
• Static load smoothing	Approx. 1.5%	Approx. 1.5%	Approx. 1.5%
Ripple content (clock frequency approx. 90 kHz)	< 200 mV <sub>pp</sub>	< 200 mV <sub>pp</sub>	< 200 mV <sub>pp</sub>
Spikes (bandwidth approx. 20 MHz)	< 300 mV <sub>pp</sub>	< 300 mV <sub>pp</sub>	< 300 mV <sub>pp</sub>
Adjustment range	22.2 V to 26.4 V	22.2 V to 26.4 V	22.2 V to 26.4 V
<b>Operation indicator</b>	Green LED for output voltage OK	Green LED for output voltage OK	Green LED for output voltage OK
Response on activation/deactivation	No overshoot of $U_{out}$ (soft start)	No overshoot of $U_{out}$ (soft start)	No overshoot of $U_{out}$ (soft start)
Startup delay/voltage rise	< 0.5 s/typ. 15 ms	< 0.5 s/typ. 10 ms	< 0.5 s/typ. 35 ms
Rated current $I_{out rated}$	<b>1.3 A</b>	<b>2.5 A</b>	<b>4 A</b>
Current range up to +55 °C	0 A to 1.3 A	0 A to 2.5 A	0 A to 4 A
Parallel switching for enhanced performance	Yes	Yes	Yes
<b>Efficiency</b>			
Efficiency at $U_{out rated}$ , $I_{out rated}$	Typically 82%	Typically 87%	Typically 89%
Heat loss at $U_{out rated}$ , $I_{out rated}$	Typically 7 W	Typically 9 W	Typically 12 W
<b>Control</b>			
Dynamic line smoothing ( $U_{in rated} \pm 15\%$ )	< 0.2% $U_{out}$	< 0.2% $U_{out}$	< 0.2% $U_{out}$
Dynamic load smoothing ( $I_{out}$ : 10/90/10%)	±1.5% $U_{out}$	±1.5% $U_{out}$	±1.5% $U_{out}$
Load-step settling time			
• 10 at 90%	Typically 20 ms	Typically 20 ms	Typically 20 ms
• 90 at 10%	Typically 20 ms	Typically 20 ms	Typically 20 ms
<b>Protection and monitoring</b>			
Current limit	Typically 2 A	Typically 3.4 A	Typically 4.7 A
Short-circuit protection	Constant-current characteristic	Constant-current characteristic	Constant-current characteristic
Sustained-short-circuit-current rms value	< 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
<b>Order number</b>	<b>6EP1 331-1SH02</b>	<b>6EP1 332-1SH42</b>	<b>6EP1 332-1SH51</b>
<b>Security</b>			
Primary/secondary galvanic isolation	Yes, safety extra-low output voltage U <sub>out</sub> to EN 60950 and EN 50178	Yes, safety extra-low output voltage U <sub>out</sub> to EN 60950 and EN 50178	Yes, safety extra-low output voltage U <sub>out</sub> to EN 60950 and EN 50178
Protection class	Class II (without protective conductor)	Class II (without protective conductor)	Class II (without protective conductor)
CE marking	Yes	Yes	Yes
UL/cUL (CSA) approval	Yes, cULus-listed (UL 508, CSA 22.2), file E197259; cURus-recognized (UL 60950, CSA 22.2), file E151273	Yes, cULus-listed (UL 508, CSA 22.2), file E197259; cURus-recognized (UL 60950, CSA 22.2), file E151273	Yes, cULus-listed (UL 508, CSA 22.2), file E197259; cURus-recognized (UL 60950, CSA 22.2), 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	Yes, Class I Div. 2, Group A, B, C, D T4
Marine Type Approval	Yes, GL, ABS	Yes, GL, ABS	Yes, GL, ABS
Degree of protection (EN 60529)	IP20	IP20	IP20
<b>EMC</b>			
Emitted interference	EN 55022 Class B	EN 55022 Class B	EN 55022 Class B
Supply-harmonics limitation	Not applicable	Not applicable	EN 61000-3-2
Noise immunity	EN 61000-6-2	EN 61000-6-2	EN 61000-6-2
<b>Operating data</b>			
Ambient temperature range	-20 °C to +55 °C with natural convection	-20 °C to +55 °C with natural convection	-20 °C to +55 °C with natural convection
Transport/storage temperature range	-40 °C to +70 °C	-40 °C to +70 °C	-40 °C to +70 °C
Humidity class	Climate class 3K3 to EN 60721, no condensation	Climate class 3K3 to EN 60721, no condensation	Climate class 3K3 to EN 60721, no condensation
<b>Mechanical system</b>			
Supply-input connections L1, N	Solid/finely-stranded per screw-type terminal for 0.5 mm to 2.5 mm <sup>2</sup>	Solid/finely-stranded per screw-type terminal for 0.5 mm to 2.5 mm <sup>2</sup>	Solid/finely-stranded per screw-type terminal for 0.5 mm to 2.5 mm <sup>2</sup>
Connections			
• Output +	Per 2 screw-type terminals for 0.5 mm to 2.5 mm <sup>2</sup>	Per 2 screw-type terminals for 0.5 mm to 2.5 mm <sup>2</sup>	Per 2 screw-type terminals for 0.5 mm to 2.5 mm <sup>2</sup>
• 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	Snaps onto DIN rail DIN EN 50022-35x15/7.5	Snaps onto DIN rail DIN EN 50022-35x15/7.5	Snaps onto DIN rail DIN EN 50022-35x15/7.5

### Ordering data

Ordering data	Order No.	Ordering data	Order No.
<b>LOGO!Power 12 V 1.9 A</b> Input 100-240 V AC Output 12 V DC, 1.9 A	<b>6EP1 321-1SH02</b>	<b>LOGO!Power 24 V 1.3 A</b> Input 100-240 V AC Output 24 V DC, 1.3 A	<b>6EP1 331-1SH02</b>
<b>LOGO!Power 12 V 4.5 A</b> Input 100-240 V AC Output 12 V DC, 4.5 A	<b>6EP1 322-1SH02</b>	<b>LOGO!Power 24 V 2.5 A</b> Input 100-240 V AC Output 24 V DC, 2.5 A	<b>6EP1 332-1SH42</b>
		<b>LOGO!Power 24 V 4 A</b> Input 100-240 V AC Output 24 V DC, 4 A	<b>6EP1 332-1SH51</b>

# LOGO! logic module

## LOGO!Contact, LOGO! Software

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
<b>Weights</b>		
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

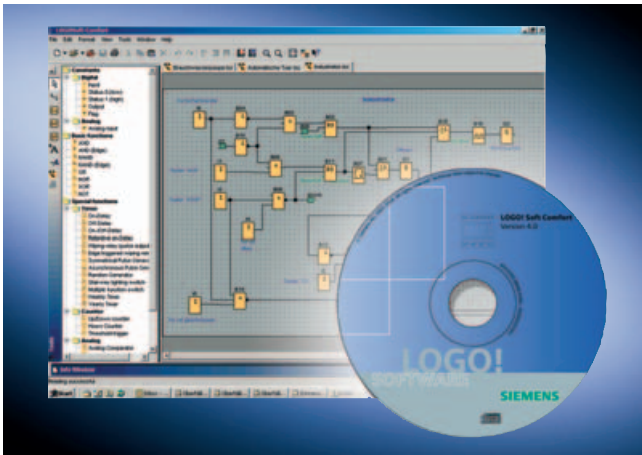
#### Order No.

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

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

### LOGO! Software

#### Overview



- The user-friendly software for creating control programs on a PC
- Creation of control programs in Function Block Diagram (FBD) 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 98 SE, NT 4.0, ME, 2000 or XP

- PC Pentium
- 90 MB vacant disk
- 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)

- Executes on all Linux distributions on which the Java 2 SDK Version 1.3.1 also executes.
- Please refer to your respective Linux distribution for the hardware requirements.

#### Ordering data

##### LOGO!Soft Comfort V5.0

For programming on the PC in LAD/FBD; executes under Windows 98 SE and higher, Linux, MAC OSX; on CD-ROM

##### LOGO!Soft Comfort upgrade

From V1.0 and higher to V5.0

#### Order No.

**6ED1 058-0BA01-0YA0**

**6ED1 058-0CA01-0YE0**