

Life Is On

Schneider
Electric

Easy line General Products

Drive, Relay, Signaling, Power Supply
products for machines
Catalog 2016



Easy line

Essential Automation &
Control products

When just enough is just right!



Easy line is a family of **Intuitive to use & service, Performance based** Automation Products, designed and innovated to **operate in Harsh Environments**, within OEM Machines, Equipment and Processes, which are operated in the Medium Market.

Allowing **OEM** Machine designers and **Panel builders** to Deliver complete automated systems, with High Quality, Reliability and performance at its core, to patch their market needs.

Fit for Purpose

- > Focus on key core functions and locally required features

Intuitive to use

- > Reduce customer effort from buying to operate and maintenance, provide Intuitive customer experience

Robustness

- > Operate in harsh environment fit non-standard behavior and misuse, deliver promised quality without compromise

Affordability

- > High cost performance

Panorama

		Automation Products for Industrial Machines	Panel Builder Products for Control Panels	General Products for Machines
	Modicon Easy M200/M100	•		
	Lexium Easy 26	•		
	Magelis Easy GXU	•		
	Altivar Easy 610		•	
	Altivar Easy 310			•
	Harmony Easy XA2		•	
	Zelio Easy RXM			•
	Harmony Easy XVG			•
	Phaseo Easy ABL2			•

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chapter 1

Drive: Altivar Easy 310



Altivar Easy 310 variable speed drives

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Textile machine



Packaging machine



Printing machine

Presentation

The AltivarTM Easy 310 drive is a frequency inverter for three-phase 380...460 V asynchronous motors rated from 0.37 kW/0.5 HP to 11 kW/15 HP.

The compact size of this drive, its robust design, its ease of installation, based on the principle of Plug & Play, its integrated functions and macro configuration make it particularly suitable for applications involving industrial machines and certain consumer machines.

By taking account of the constraints governing installation and use at the product design stage, we have been able to offer a reliable, cost-effective solution to manufacturers of compact machines (OEMs).

The Altivar Easy 310 has been developed with no compromise on quality : the components are designed to last 10 years.

Applications

The Altivar Easy 310 drive incorporates functions that are suitable for the most common applications, including:

- Textile machine
- Machine tools
- Wood making machine
- Material handling
- Packaging and printing machines
- Ceramic machine

Functions

In addition to the functions usually available on this type of drive, the Altivar Easy 310 drive also features the following:

Motor control functions (1)

- Motor control profiles: standard, performance and pump/fan
- Cooling fan thermal control
- Switching frequency management
- Boost torque
- Motor noise reduction
- Current limitation
- Auto DC injection

Application functions (1)

- Frequency skip
- Preset speeds
- PID regulator
- S ramp, U ramp, ramp switching
- Jog operation
- +/- speed around reference
- Freewheel stop, fast stop
- Automatic catching a spinning load with speed detection and automatic restart

Control functions (1)

- Channel configuration - separate mode or not
- Reference channel selection
- Reverse inhibition
- Force local control
- Store customer parameter settings

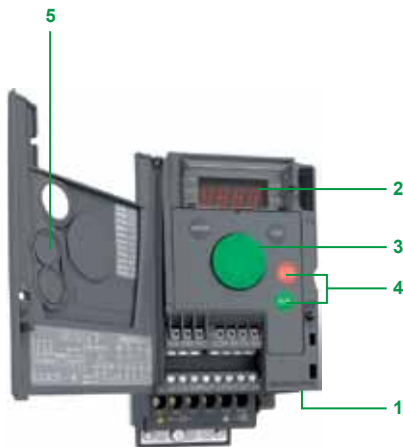
Protection and maintenance functions (1)

- Protection of the installation by means of underload and overload detection
- Maintenance functions:
 - ☐ HMI password
 - ☐ Configuring the logic and analog I/O
 - ☐ Configuring how the parameters are displayed
 - ☐ Viewing the state of the logic inputs on the drive display
 - ☐ Key parameters display (drive power on / Fan time / Process elapsed time)
 - ☐ The last 4 fault display, error log, etc.

(1) For the implementation of functions, please consult the user manual on our local website.



Altivar Easy 310 range



ATV310H037N4E with door on front panel open



Remote terminal with cover closed



Remote terminal with cover open: RUN, FWD/REV and STOP buttons accessible



Multi-Loader configuration tool

An optimized offer

Environment

The entire range conforms to international standards IEC/EN 61800-5-1 and IEC/EN 61800-3 and has been developed to meet the requirements of directives regarding the protection of the environment (RoHS, WEEE). Owing to its innovated air flow design and to its thicker coating which avoids polluting PCB, the range can be used in the harshest environments. It can withstand a 55 °C/131 °F ambient air temperature around the device without derating (1). Its degree of protection is IP 20 (IP 41 on top of the product).

Adaptability and performances

The Altivar Easy 310 has been designed with an increased adaptability to different motors and various tough loads.

One of its main quality is its torque capacity for starting and braking:

- Braking capacity:
 - over 80 % of the rated motor torque without braking resistor
 - 150 % of the rated motor torque with braking resistor (see page 60408/8)
- Torque capacity
 - starting torque 150 % at 3 Hz
 - over torque : 150 to 170 %, depending on model (2).

Easy to integrate in system

The Altivar Easy 310 drive integrates as standard the Modbus communication protocol, which can be accessed via the RJ45 connector located on the underside of the drive 1 with a 2-wire RS 485 physical interface. To communicate on the network, the Altivar Easy 310 speed drive uses the Modbus RTU transmission mode. For more information on the complementary characteristics of the Modbus port (transmission speed, address, messaging...), please consult our local website. Logic input can be configured as source or sink by software, compatible with many PLCs.

Easy to install

The Altivar Easy 310 drives can easily and quickly be installed as:

- they are easy and quick to wire due to their Plug & Play concept
- they can be identified on the front panel.
- they can be mounted side by side to save cabinet space.
- power terminal and connection labels are easily identified and differentiated
- a connection guideline is shown inside the front door.

Easy to commission

Human-Machine Interface (integrated keypad)

The 4-digit display 2 can be used to display states and faults, access parameters and modify them via the navigation button 3.

The RUN and STOP buttons 4 can be made accessible on the front panel by removing the blanking plate 5 from the door; they must be configured in order to be active.

Remote display terminal

The Altivar Easy 310 drive can be connected to a remote display terminal, available as an option. This terminal can be mounted on an enclosure door with IP 54 or IP 65 degree of protection. The maximum operating temperature is 50 °C/ 122 °F. It provides access to the same functions as the Human-Machine interface.

Simple Loader and Multi-Loader configuration tools

The Simple Loader tool enables one powered-up drive's configuration to be duplicated on another powered-up drive. Operation is very simple.

The Multi-Loader tool enables configurations from a PC or drive to be copied and duplicated on another drive; the drives do not need to be powered up. The configuration can be loaded onto the drive without taking it out of its packaging.

Easy to maintain

A warning is sent by the drive to the user when it is necessary to clean heat sink or replace cooling fan. This fan, which is the only wearing part, can be changed without the need for any tool.

The security of the system is ensured by an access code allowing authorized people to configure applications and settings in Configuration mode. Simple users are only allowed to use the Monitoring mode (parameters display).

(1) Over this temperature, see the derating curves in the User Manual, available on our website.

(2) For more information, please refer to our local website.

Main characteristics**Analog input AI1**

1 software-configurable voltage or current analog input:

- Voltage analog input: 0...5 V --- (internal power supply only) or 0...10 V --- , impedance 30 k Ω
- Analog current input: X-Y mA by programming X and Y from 0-20 mA, Impedance 250 Ω

Sampling time: < 20 ms

Resolution: 10 bits

Accuracy: $\pm 1\%$ at 25 °C/77 °F

Linearity: $\pm 0.3\%$ of the maximum scale value

Factory setting: Input configured as voltage type

Analog output AO1

1 software-configurable voltage or current analog output:

- Analog voltage output: 0...10 V --- , minimum load impedance 470 Ω
- Analog current output: 0-20 mA, maximum load impedance 800 Ω

Sampling time: < 10 ms

Resolution: 8 bits

Accuracy: $\pm 1\%$ at 25 °C/77 °F

Relay outputs R1A, R1B, R1C

1 protected relay output, 1 N/O contact and 1 N/C contact with common point

Response time: 30 ms maximum

Minimum switching capacity: 5 mA for 24 V ---

Maximum switching capacity:

- On resistive load ($\cos \varphi = 1$ and $L/R = 0$ ms): 3 A at 250 V \sim or 4 A at 30 V ---
- On inductive load ($\cos \varphi = 0.4$ and $L/R = 7$ ms): 2 A at 250 V \sim or 30 V ---

Logic inputs LI1...LI4

4 programmable logic inputs, compatible with PLC level 1, standard IEC/EN 61131-2
24 V --- internal power supply or 24 V --- external power supply (min. 18 V, max. 30 V)

Sampling time: < 20 ms

Sampling time tolerance: ± 1 ms

Factory-set with 2-wire control in "transition" mode for machine safety reasons:

- LI1: forward
- LI2...LI4: not assigned

Multiple assignment makes it possible to configure several functions on one input (for example: LI1 assigned to forward and preset speed 2, LI3 assigned to reverse and preset speed 3)

Impedance 3.5 k Ω

Logic outputs LO1

One 24 V c logic output assignable as positive logic (Source) or negative logic (Sink) open collector type, compatible with level 1 PLC, standard IEC/EN 61131-2
Maximum voltage: 30 V

Linearity: $\pm 1\%$

Maximum current: 10 mA (100 mA with external power supply)

Impedance: 1 k Ω

Update time: < 20 ms



ATV310H037N4E



ATV310HU15N4E



ATV310HU30N4E



ATV310HU75N4E

Drives										
Motor		Line supply				Altivar Easy 310				
Power indicated on rating plate (1)		Max. line current (2)	Apparent power		Max. prospective line Isc	Maximum continuous output current (In) (1)	Maximum transient current for 60 s	Dissipated power at maximum output current (In) (1)	Reference	Weight (3)
			380 V	460 V						
kW	HP	A	A	kVA	kA	A	A	W		kg/lb
Three-phase supply voltage: 380...460 V 50/60 Hz										
0.37	0.5	2.1	1.8	1.4	5	1.5	2.3	19.63	ATV310H037N4E	0.800/1.760
0.75	1	3.5	3.1	2.5	5	2.3	3.5	28.83	ATV310H075N4E	0.800/1.760
1.5	2	6.5	5.4	4.3	5	4.1	6.2	51.82	ATV310HU15N4E	1.100/2.430
2.2	3	8.8	7.2	5.7	5	5.5	8.3	66.32	ATV310HU22N4E	1.100/2.430
3	4	11.1	9.2	7.3	5	7.1	10.7	80.24	ATV310HU30N4E	1.800/3.970
4	5	13.7	11.4	9.1	5	9.5	14.3	102.72	ATV310HU40N4E	1.800/3.970
5.5	7.5	21.3	14.3	11.4	22	12.6	18.9	141.54	ATV310HU55N4E	1.800/3.970
7.5	10	26.6	22.4	17.8	22	17	25.5	203.87	ATV310HU75N4E	3.700/8.160
11	15	36.1	30.4	24.2	22	24	36	294.70	ATV310HD11N4E	3.700/8.160

Dimensions (overall)		
Drives with heatsinks	W x H x D	
	mm	in.
ATV310H037N4E	72 x 143 x 130	2.83 x 5.63 x 5.12
ATV310H075N4E	72 x 143 x 140	2.83 x 5.63 x 5.51
ATV310HU15N4E, HU22N4E	105 x 143 x 151	4.13 x 5.63 x 5.94
ATV310HU30N4E...HU55N4E	140 x 184 x 151	5.51 x 7.24 x 5.94
ATV310HU75N4E, HD11N4E	150 x 232 x 171	5.91 x 9.13 x 6.73

(1) These values are given for a nominal switching frequency of 4 kHz, for use in continuous operation. If operation above 4 kHz needs to be continuous, the nominal drive current should be derated by 10% for 8 kHz and 20% for 12 kHz.

The switching frequency can be set between 2 and 12 kHz for all ratings.

Above 4 kHz, the drive will reduce the switching frequency automatically in the event of an excessive temperature rise.

See the derating curves in the User Manual, available on our local website.

(2) Typical value for the indicated motor power and for the maximum prospective line Isc.

(3) Weight of product without packaging.

PF513413



Configuring the drive in its packaging with the Multi-Loader tool VW3A8121+ cordset VW3A8126

Configuration tools

Description	For drives	Reference	Weight kg/ lb
Simple Loader, Multi-Loader configuration tools and associated cable			
Simple Loader tool For duplicating one drive configuration on another drive. The drives must be powered-up. The tool is supplied with a cordset equipped with 2 RJ45 connectors.	ATV310H●●●N4E	VW3A8120	—
Multi-Loader tool 1 For copying a configuration on a PC or drive and duplicating it on another drive. The drives do not need to be powered-up. Supplied with the tool: <ul style="list-style-type: none"> ■ 1 cordset equipped with 2 RJ45 connectors ■ 1 cordset equipped with a USB type A connector and a USB Mini-B type connector ■ 1 x 2 GB SD memory card ■ 1 female/female RJ45 adaptor ■ 4 AA/LR6 1.5 V batteries 	ATV310H●●●N4E	VW3A8121	—
Cordset for Multi-Loader tool 2 For connecting the Multi-Loader tool to the Altivar Easy 310 drive in its packaging. Equipped with a non-locking RJ45 connector with special mechanical catch on the drive end and an RJ45 connector on the Multi-Loader end.	ATV310H●●●N4E in its packaging	VW3A8126	—

PF080659



VW3A1006 with cover open: RUN, FWD/REV and STOP buttons accessible

Remote display terminals and associated cordsets

Description	Degree of protection	For drives	Reference	Weight kg/ lb
Remote display terminals For fixing the Human-Machine interface on an enclosure door with IP 54 or IP 65 degree of protection. A remote-fixing cordset VW3A1104Rpp is also required.	IP 54	ATV310H●●●N4E	VW3A1006	0.250/ 0.550
	IP 65	ATV310H●●●N4E	VW3A1007	0.275/ 0.610
Remote-fixing cordsets equipped with 2 RJ45 connectors. For connecting the VW3 A1 006 or VW3A1007 remote display terminal to the Altivar Easy 310 drive.	Length: 1 m/3.28 ft	ATV310H●●●N4E	VW3A1104R10	0.050/ 0.110
	Length: 3 m/9.84 ft	ATV310H●●●N4E	VW3A1104R30	0.150/ 0.330

Dimensions (overall)

Remote display terminal	W x H x D	
	mm	in.
VW3A1006	50 x 70 x 22.7	1.97 x 2.76 x 0.89
VW3A1007	66 x 106 x 26.7	2.6 x 4.17 x 1.05

Presentation

Line chokes

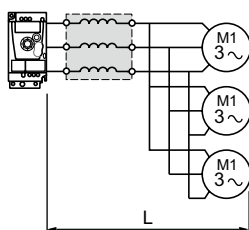
A line choke can be used to provide improved protection against overvoltages on the line supply and to reduce harmonic distortion of the current produced by the drive. They are recommended for ATV310...N4E drives. The recommended chokes limit the line current. They have been developed in line with standard EN 50178 (VDE 0160 level 1 high energy overvoltages on the line supply).

The choke values are defined for a voltage drop between phases of between 3% and 5% of the nominal supply voltage. Values higher than this will cause loss of torque.

These chokes should be installed upstream of the drive.

The use of line chokes is recommended in particular under the following circumstances:

- Close connection of several drives in parallel
- Line supply with significant disturbance from other equipment (interference, overvoltages)
- Line supply with voltage imbalance between phases above 1.8% of the nominal voltage
- Drive supplied by a line with very low impedance (in the vicinity of a power transformer 10 times more powerful than the drive rating)
- Installation of a large number of frequency inverters on the same line
- Reducing overloads on the cos ϕ correction capacitors, if the installation includes a power factor correction unit.



VW3A455●
Motor choke

Motor chokes and LR filter cell

Motor chokes are required:

- When connecting more than 2 motors in parallel
- When the motor cable length (L), including tap-offs, is:
 - 25 m/82.2 ft maximum for a shielded motor cable (1),
 - 50 m/164.4 ft maximum for an unshielded motor cable (1).

LR filter cell comprises 3 high-frequency chokes and 3 resistors.

References

Line chokes

For drives

	Line current without choke		Line current with choke		Choke Reference	Weight kg/ lb
	380 V	460 V	380 V	460 V		
	A	A	A	A		
ATV310H037N4E	2.1	1.8	1.1	1	VW3A4551	1.500/ 3.310
ATV310H075N4E	3.5	3.1	1.9	1.7		
ATV310HU15N4E	6.5	5.4	3.5	2.9	VW3A4552	3.700/ 8.160
ATV310HU22N4E	8.8	7.2	5.1	4.4		
ATV310HU30N4E	11.1	9.2	6.6	5.6		
ATV310HU40N4E	13.7	11.4	8.5	7.1	VW3A4553	4.100/ 9.040
ATV310HU55N4E	21.3	14.3	11.6	9.9		
ATV310HU75N4E	26.6	22.4	15.2	12.8	VW3A4554	6.150/ 13.230
ATV310HD11N4E	36.1	30.4	22	18.9		

Motor chokes and LR filter cell

For drives

	Losses W	Nominal current A	Reference	Weight kg/ lb
ATV310H037N4E...HU15N4E	150	10	VW3A58451 (2)	7.400/ 16.310
ATV310HU22N4E...HU40N4E	65	10	VW3A4552	3.700/ 8.160
ATV310HU55N4E	75	16	VW3A4553	4.100/ 9.040
ATV310HU75N4E...HD11N4E	90	30	VW3A4554	6.150/ 13.230

Dimensions (overall)

Line chokes or motor chokes, W x H x D

LR filter cell	mm	in.
VW3A4551	100 x 135 x 60	3.94 x 5.31 x 2.36
VW3A4552, A4553	130 x 155 x 90	5.12 x 6.1 x 3.54
VW3A4554	155 x 170 x 135	6.1 x 6.69 x 5.31
VW3A58451	169.5 x 340 x 123	6.67 x 13.39 x 4.84

(1) Motor cable length given for a switching frequency of 4 kHz.

(2) LR filter cell.



VW3A455●



VW3A7701

Braking resistors

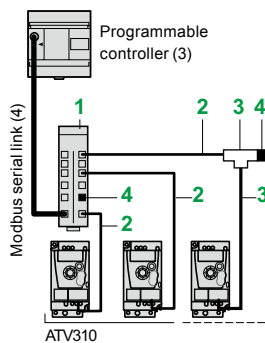
For drives	Minimum Ohmic value	Ohmic value at	Power available at		Reference	Weight
			20° C/68° F	40° C/104° F 50° C/122° F (1)		
	Ω	Ω				kg/lb
Not protected resistor (IP00) (2)						
ATV310HU15N4E	80	100	32	28	VW3A7723	0.600/1.320
ATV310HU22N4E	60					
ATV310HU30N4E	36	100	40	35	VW3A7725	0.850/1.870
ATV310HU40N4E	36					
Protected resistor (IP20 or 23)						
ATV310HU15N4E	80	100	58	50	VW3A7701	1.900/4.190
ATV310HU22N4E	60					
ATV310HU30N4E	36					
ATV310HU40N4E	36					
ATV310HU55N4E	28	60	115	100	VW3A7702	2.400/5.290
ATV310HU75N4E	28					
ATV310HD11N4E	28	28	231	200	VW3A7703	3.500/7.720

Dimensions (overall)

Braking resistors	W x H x D	
	mm	in.
VW3A7723	60 x 170 x 30	2.36 x 6.659 x 1.18
VW3A7725	62 x 212 x 36	2.44 x 8.35 x 1.42
VW3A7701	95 x 293 x 95	3.74 x 11.54 x 3.74
VW3A7702	95 x 393 x 95	3.74 x 15.47 x 3.74
VW3A7703	140 x 393 x 120	5.51 x 15.47 x 4.72

Modbus serial link

Description	Item no.	Length m/ft	Unit reference	Weight kg/ lb	
Connection via splitter box and RJ45 connectors					
Modbus splitter box 10 RJ45 connectors and 1 screw terminal		—	LU9GC3	0.500/ 1.100	
Cordsets for Modbus serial link equipped with 2 RJ45 connectors	2	0.3/0.98	VW3A8306R03	0.025/ 0.060	
		1/3.28	VW3A8306R10	0.060/ 0.060	
		3/9.84	VW3A8306R30	0.130/ 0.290	
Modbus T-junction boxes (with integrated cable)	3	0.3/0.98	VW3A8306TF03	0.190/ 0.420	
		1/3.28	VW3A8306TF10	0.210/ 0.460	
Line terminators (5) (6) For RJ45 connector	R = 120 Ω C = 1 nf	4	—	VW3A8306RC	0.010/ 0.020
	R = 150 Ω	4	—	VW3A8306R	0.010/ 0.020



Example of Modbus diagram with connection via splitter box and RJ45 connectors

(1) Load factor for resistors: the value of the average power that can be dissipated at 50 °C from the resistor into the casing is determined for a load factor during braking that corresponds to the majority of normal applications.

For VW3A7701...703:

- 2 s braking with a 0.6 T_n braking torque for a 40 s cycle

- 0.8 s braking with a 1.5 T_n braking torque for a 40 s cycle

(2) For not protected resistors, add a thermal overload device.

(3) Please refer to the programmable controller catalogue on our local website.

(4) Cable depends on the type of controller or PLC.

(5) Order in multiples of 2.

(6) Depends on the bus architecture.

Applications

The proposed combinations can:

- Protect people and equipment (when a short-circuit occurs)
- Maintain protection upstream of the drive in the event of a short-circuit on the power stage

Two types of combination are possible:

- Drive + circuit-breaker: Minimum combination
- Drive + circuit-breaker + contactor: Minimum combination with contactor when a control circuit is needed

Motor starters

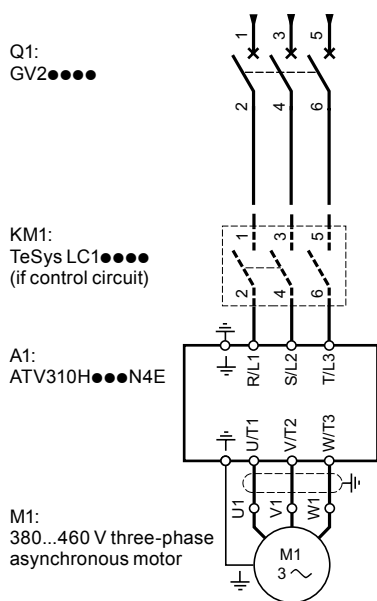
Standard power ratings of threephase 4-pole 50/60 Hz motors (2)		Variable speed drive	Combination with control circuit (circuit-breaker + contactor)		
			Minimum combination (circuit-breaker only)		TeSys contactor (1)
			TeSys motor circuit-breaker (3)	Operating range or rating	
kW	HP		A		
M1		A1	Q1		KM1
Three-phase supply voltage: 380...460 V 50/60 Hz (4)					
0.37	0.5	ATV310H037N4E	GV2P07	2.5	LC1D09
			GV2L07	2.5	
0.75	1	ATV310H075N4E	GV2P08	4	LC1D09
			GV2L08	4	
1.5	2	ATV310HU15N4E	GV2P14	10	LC1D09
			GV2L14	10	
2.2	3	ATV310HU22N4E	GV2P14	10	LC1D09
			GV2L14	10	
3	4	ATV310HU30N4E	GV2P16	14	LC1D09
			GV2L16	14	
4	5.4	ATV310HU40N4E	GV2P16	14	LC1D09
			GV2L16	14	
5.5	7.4	ATV310HU55N4E	GV2P22	25	LC1D09
			GV2L22	25	
7.5	10	ATV310HU75N4E	GV2P32	32	LC1D18
			GV2L32	32	
11	15	ATV310HD11N4E	GV2P40	40	LC1D25
			GV2L40	40	

(1) For a complete list of references for TeSys contactors, please visit our local website.

(2) Motor power indicated for combination with an ATV310H●●●N4E drive with the same rating.

(3) TeSys motor circuit-breakers:

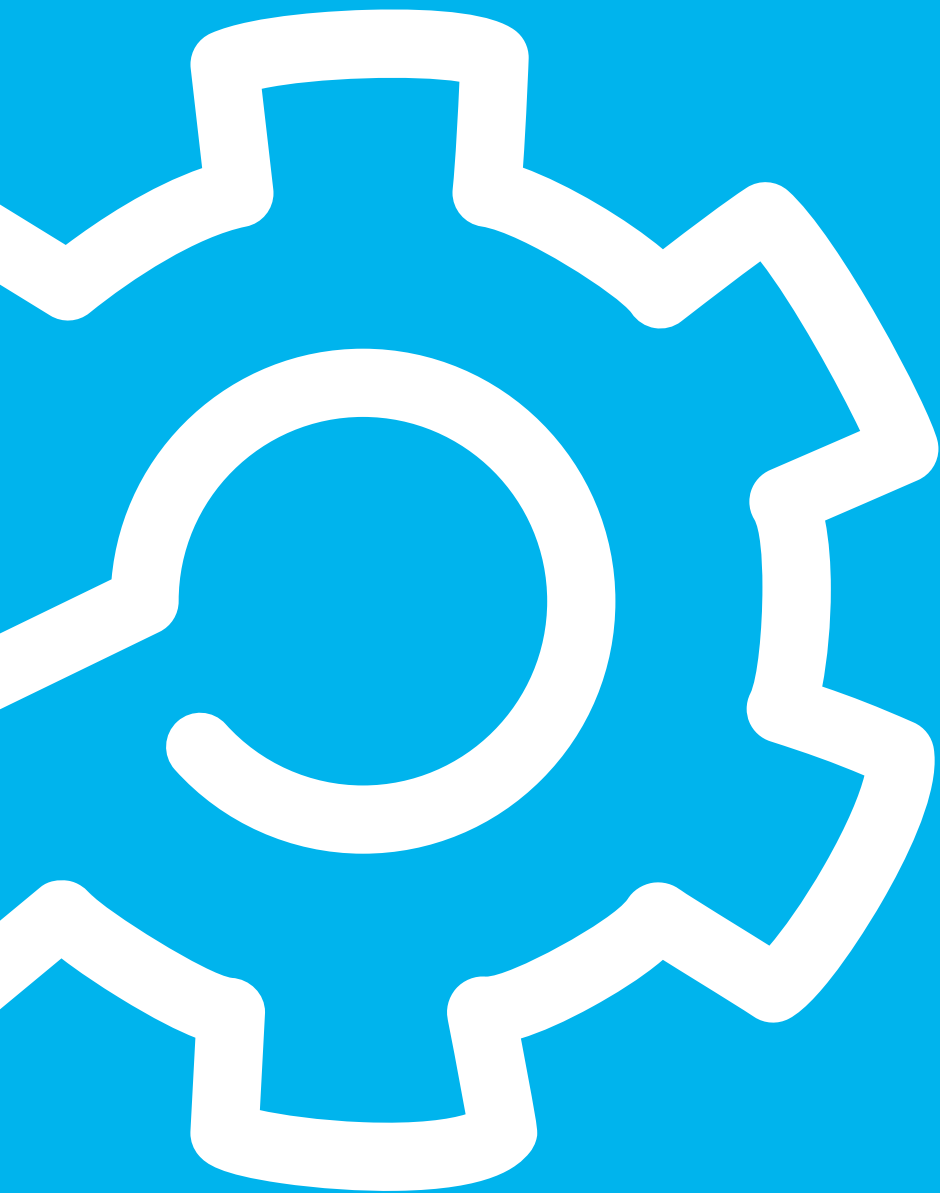
- GV2 P●●: Thermal magnetic motor circuit-breakers with pushbutton control.
- GV2 L●●: Magnetic motor circuit-breakers with control by rotary knob.



Motor starter with three-phase power supply

chapter 2

Relay: Zelio Easy RXM



Zelio Easy RXM Optimum miniature plug-in relays

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■ Characteristics

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- Insulation characteristics *page 15*
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■ References

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- Miniature relays without lockable test-button, without LED *page 17*
- Sockets & Accessories *page 17*

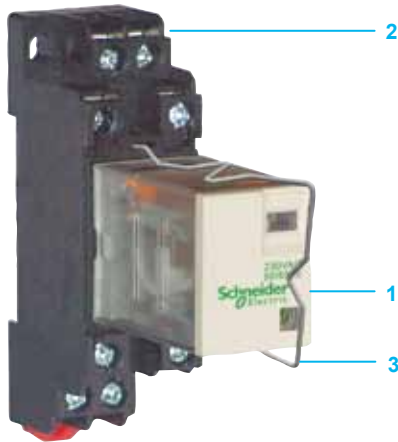
■ Dimensions

- Miniature relays *page 18*
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■ Schemes

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2



Presentation of the range

The RXM Optimum miniature relay range comprises:

- 1 5 A relay with 2 C/O contacts or 3 A relays with 4 C/O contacts.
The relays have the same dimensions.
- 2 Socket with mixed contact terminals.
- 3 Metal maintaining clamps (accessories).

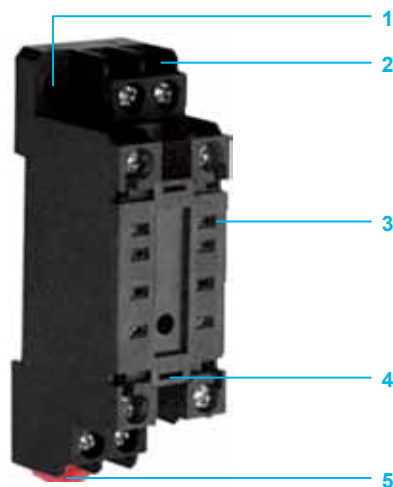
Relay description

- 1 Area by which the product can be easily gripped.
- 2 Mechanical "relay status" indicator.
- 3 LED (depending on version) indicating the relay status.
- 4 Four notches for rail mounting adapter or panel mounting adapter with fixing lugs.
- 5 Eight or fourteen Faston type pins.



Socket description

- 1 Two fixing holes for panel mounting.
- 2 Connection by screw clamp terminals.
- 3 Eight or fourteen female contacts for the relay pins.
- 4 Two fixing holes for metal maintaining clamp.
- 5 Locating slot for mounting on DIN rail with fixing clip.



General characteristics

Conforming to standards		CE, ROHS, IEC/EN 61810-1 (iss.2)
Product certifications		None
Ambient air temperature around the device	Storage	°C - 40... + 85
	Operation	°C - 40... + 55
Vibration resistance conforming to IEC/EN60068-2-6	Operating	3 gn (10...50 Hz)
	Not operating	6 gn (10...50 Hz)
Degree of protection conforming to IEC/EN 60529		IP 40
Shock resistance conforming to IEC/EN 60068-2-27	Opening	10 gn
	Closing	5 gn
Protection category		RT I
Mounting position		Any

Insulation characteristics

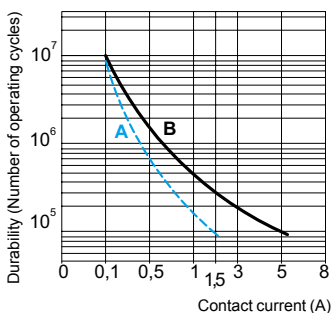
Rated insulation voltage (Ui)	V	250 (IEC)
Rated impulse withstand voltage (Uimp)	kV	3.6 (1.2/50 μs)
Dielectric strength (rms voltage)	Between coil and contact	~ V 2000
	Between poles	~ V 2000
	Between contacts	~ V 1000

Contact characteristics

Relay type				RXM 2LB...	RXM 4LB...
Number and type of contacts				2 C/O	4 C/O
Contact materials				Silver Alloy	Silver Alloy
Conventional thermal current (Ith) For ambient temperature ≤55 °C				A 5	3
Rated operational current in utilisation categories AC-1 and DC-1	Conforming to IEC	N/O		5	3
		N/C		2.5	1.5
Minimum switchable current				mA 10	
Switching voltage	Maximum			V ---/~ 250	
	Minimum			V 17	
Rated load (resistive)				A 5 / 250 VAC	3 / 250 VAC
				A 5 / 28 VDC	3 / 28 VDC
Switching capacity	Maximum	~	VA	1250	750
		---	W	140	84
	Minimum		mW	170	170
Maximum operating rate In operating cycles/hour	No-load			18 000	
	Under load			1200	
Utilisation coefficient				20 %	
Mechanical durability In millions of operating cycles				10	
Electrical durability In millions of operating cycles				0.1	
				Inductive load	See curves below

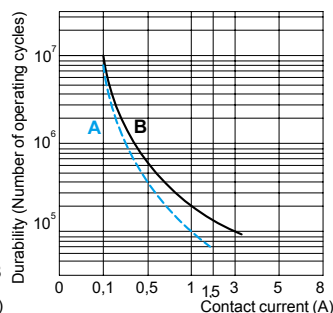
Electrical durability of contacts

For 2 poles relay



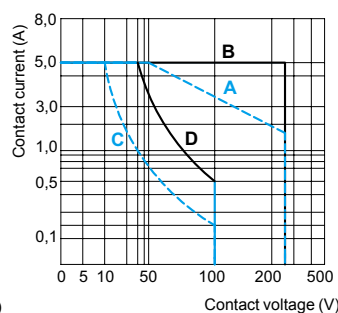
A Inductive load
B Resistive load

For 4 poles relay



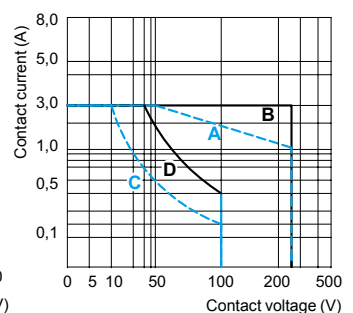
Maximum switching capacity

For 2 poles relay



A Inductive load ~
B Resistive load ~
C Inductive load ---
D Resistive load ---

For 4 poles relay



Durability (inductive load) = durability (resistive load) x reduction coefficient.

Coil characteristics

Average consumption		~	VA	1.2						
		---	W	0,9						
Drop-out voltage threshold		~		≥ 0.15 Uc						
		---		≥ 0.1 Uc						
Operating time (response time)	Between coil energisation and making of the On-delay contact	~	ms	20						
		---	ms	20						
	Between coil de-energisation and making of the Off-delay contact	~	ms	20						
		---	ms	20						
Control circuit voltage Uc			V	12	24	36	48	110	120	230
Relay control voltage codes				JD	BD	CD	ED	FD	—	—
DC supply	Average resistance at 20 °C ± 10%		Ω	160	630	1500	2600	11000	—	—
	Operating voltage limits	Min.	V	9.6	19.2	28.8	38.4	88	—	—
		Max.	V	13.2	26.4	39.6	52.8	121	—	—
Relay control voltage codes				—	B7	—	—	—	F7	P7
AC supply	Average resistance at 20 °C ± 15%		Ω	—	160	—	—	—	4500	15000
	Operating voltage limits	Min.	V	—	19.2	—	—	—	96	184
		Max.	V	—	26.4	—	—	—	132	253

Socket characteristics

Socket Type		RXZ E1M2C		RXZ E1M4C	
Relay Type		RXM 2●●●●●		RXM 2●●●●●, RXM 4●●●●●	
Contact terminal arrangement		Mixed			
Wire connection method		Screw clamp			
Width	mm	22.5	29		
Product certifications		None			
Conformity to standards		CE, ROHS, IEC 61984			
Electrical Ratings					
Conventional Thermal Current (Ith)		A	7		
Nominal Voltage Rating		V	250 (IEC)		
Dielectric Strength					
Output to Adjacent Output Terminals		Vrms	2 500		
Output to Input Terminals		Vrms	2 500		

General Characteristics

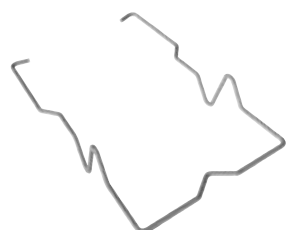
Temperature range		Operating	°C	- 40...+ 55		
		Storage	°C	- 55...+ 85		
Degree of protection	Conforming to IEC/EN 60529			IP 20		
Connection	Solid cable without cable end	1 conductor	mm²	0.5...1.5		
			AWG	20...16		
		2 conductors	mm²	0.5...1.5		
			AWG	20...16		
	Flexible cable with cable end	1 conductor	mm²	0.25...1		
			AWG	22...17		
		2 conductors	mm²	0.25...1		
			AWG	22...17		
Screw Size			mm	M3		
Maximum tightening torque			Nm	0.8 (M3 Screw)		
Mounting				35 mm DIN Rail / Panel		
DIN Rail locking method				Red Plastic Clip		
Terminal Marking				IEC, NEMA		
Relay fixing plastic clip compatible				No		No
Relay fixing metal clip compatible				Yes		Yes
Protection modules				No		No
Clip-In legend				No		No



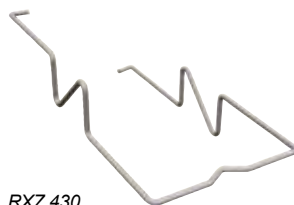
RXM 2LB...



RXZ E1M...



RXZ 420



RXZ 430

References

Miniature relays without lockable test-button, with LED

(sold in lots of 10)

Control circuit voltage	Number and type of contacts - 2 C/O - 5 A		Thermal current (Ith) - 4 C/O - 3 A	
	Unit reference	Weight	Unit reference	Weight
V		kg		kg
--- 12	RXM 2LB2JD	0.033	RXM 4LB2JD	0.035
--- 24	RXM 2LB2BD	0.032	RXM 4LB2BD	0.034
--- 36	RXM 2LB2CD	0.034	RXM 4LB2CD	0.036
--- 48	RXM 2LB2ED	0.033	RXM 4LB2ED	0.035
--- 110	RXM 2LB2FD	0.031	RXM 4LB2FD	0.033
~ 24	RXM 2LB2B7	0.033	RXM 4LB2B7	0.035
~ 120	RXM 2LB2F7	0.032	RXM 4LB2F7	0.033
~ 230	RXM 2LB2P7	0.031	RXM 4LB2P7	0.032

Miniature relays without lockable test-button, without LED

(sold in lots of 10)

Control circuit voltage	Number and type of contacts - 2 C/O - 5 A		Thermal current (Ith) - 4 C/O - 3 A	
	Unit reference	Weight	Unit reference	Weight
V		kg		kg
--- 12	RXM 2LB1JD	0.032	RXM 4LB1JD	0.034
--- 24	RXM 2LB1BD	0.032	RXM 4LB1BD	0.033
--- 48	RXM 2LB1ED	0.033	RXM 4LB1ED	0.034
~ 24	RXM 2LB1B7	0.033	RXM 4LB1B7	0.034
~ 120	RXM 2LB1F7	0.031	RXM 4LB1F7	0.033
~ 230	RXM 2LB1P7	0.030	RXM 4LB1P7	0.032

Sockets

(sold in lots of 10)

Contact terminal arrangement	Connection	Relay type	Unit reference	Weight kg
Mixed	Screw clamp	RXM2	RXZ E1M2C	0.034
	Screw clamp	RXM2 RXM4	RXZ E1M4C	0.053

Accessories

(sold in lots of 10)

Description	For use with	Unit reference	Weight kg
Metal maintaining clamp	RXZ E1M2C	RXZ 420	0.001
	RXZ E1M4C	RXZ 430	0.001

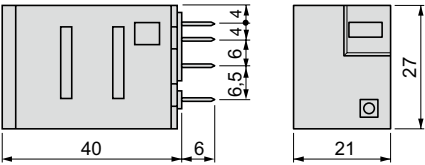
nota: If protection module needed, please used the RZE2 sockets with the associated protection module RXM0. You can find all the details in the RXM 2AB range.

Dimensions

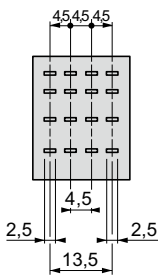
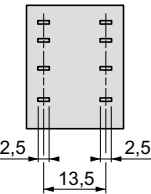
Miniature relays

RXM RXM 2..... RXM 4.....

Common view

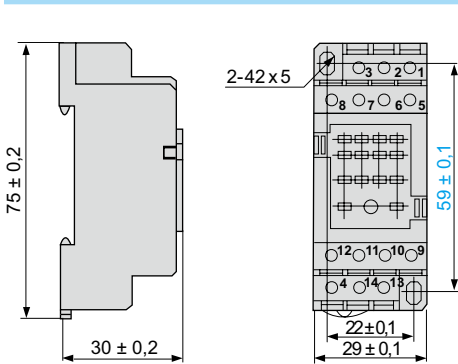
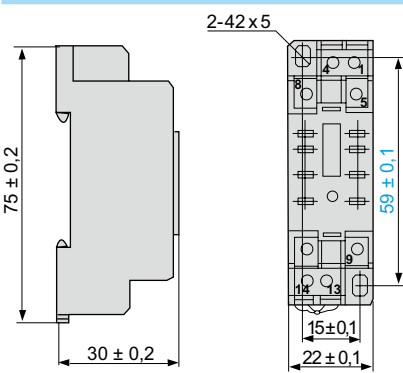


Pin side view



Sockets

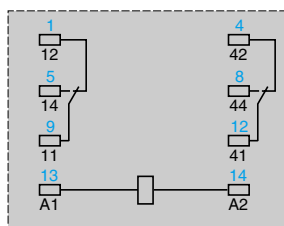
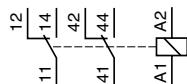
RXZ E1M2C RXZ E1M4C



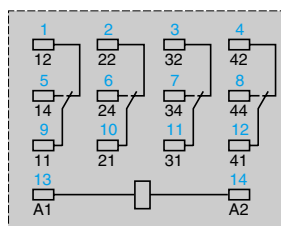
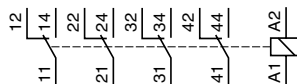
Schemes

Miniature relays

RXM 2●●●●●



RXM 4●●●●●



Symbols shown in blue correspond to Nema marking.

chapter 3

Signaling: Harmony Easy XVG



Harmony® XVG monolithic tower lights

■ Presentation	
□ Pre-assembled and pre-cabled tower lights, Ø 60 mm.....	page 22
■ Description	page 22
■ References	
□ Pre-assembled and pre-cabled tower lights.....	page 23
□ Accessories	page 23

Signaling solutions

Monolithic tower lights

Harmony type XVG Ø 60

Pre-assembled and pre-cabled tower lights

Presentation

The monolithic tower lights in the Harmony XVG range are designed for long distance indication of the operating status or sequences of a machine or installation, either visually by means of illuminated signaling units visible through 360°, or audibly by means of a buzzer.

- The range involves Ø 60 mm products and is therefore ideal for use in many activity sectors, including metal tools, plastic extrusion machines, SMT, textiles, packaging, baggage handling and assembly lines. This range is only for indoor applications.

- XVG tower lights are supplied:

- with 2, 3 or 4 illuminated signaling units, colored LEDs and clear lenses (1),
- with or without a buzzer,
- pre-assembled and pre-cabled,
- fitted with one of the following mounting options:
 - base mounting (IP 53 and IP 42),
 - direct aluminium tube mounting (IP 23),
 - aluminium tube mounting and "L" bracket (IP 23),
 - aluminium tube mounting and fixing plate (IP 53 and IP 42),
 - aluminium tube mounting and foldable bracket (IP 40).

Illuminated signaling

The light source consists of colored LEDs completed with a clear lense to provide aesthetics look and reliable signaling (clear lenses help to avoid color reflectance in bright environments). When LEDs are not powered, the tower lights appear translucent. The colors are always placed in the standard industry order, from top to bottom.

Audible signaling

The tower light is supplied with or without an audible signaling unit (buzzer with continuous signal) depending on the required configuration. This audible unit is located in the base of the tower light.

Environment

The XVG tower lights are CE certified.

Cabling

XVG tower lights supplied pre-assembled are equipped with wires marked with a label indicating the correct way to connect. Each level is marked by a different colored wire.

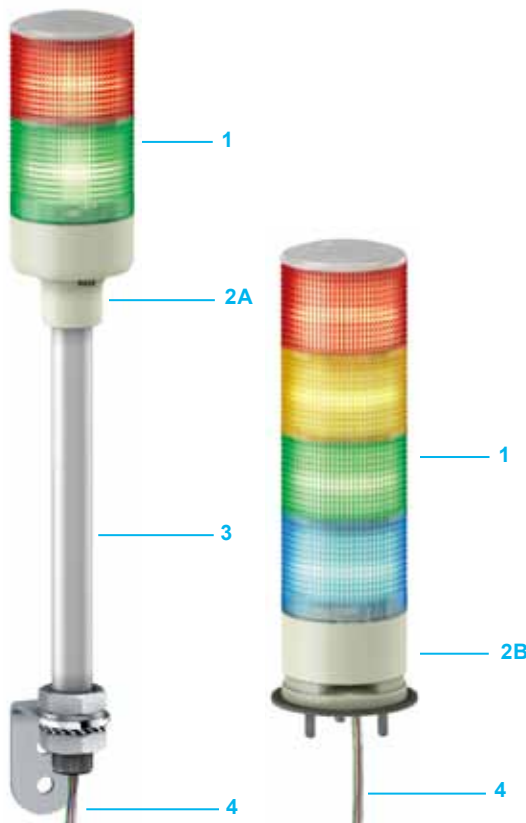
XVG tower lights that have been pre-assembled and pre-cabled at the factory cannot be modified because the wires are permanently connected (soldered).

Description

XVG monolithic tower lights are comprised of:

- 1 Two, three or four colored illuminated signaling units (Red, Amber, Green or Blue). Each XVG tower light is equipped with colored LEDs and a clear lens molded from a single piece of clear plastic. The colors are only visible when the LEDs are supplied (voltage: 24 V AC/DC) (1).
- 2 A base mounted on the support tube 2A or a base fitted with 3 screws 2B for direct mounting on a horizontal surface (depending on the model).
- 3 An aluminium support tube completed with a fixing plate or a foldable bracket (for mounting on a horizontal support) or with an L-bracket (for mounting on a vertical support).
- 4 Marked wires, with projecting length of 500 to 560 mm for all tower lights with tube mounting (depending on the model) and 900 mm for base mounting model.

(1) Tower lights on this page are shown with LEDs on.



Signaling solutions

Monolithic tower lights

Harmony type XVG Ø 60

Pre-assembled and pre-cabled tower lights



Pre-assembled and pre-cabled tower lights $\approx 24\text{ V}$, Ø 60 mm

Description	Light source (included)	Degree of protection	Signaling colors (1)	Reference	Weight kg
With base mounting					
Without buzzer	LED for steady light	IP 53	Red, Green	XVGB2W	0.200
			Red, Amber, Green	XVGB3W	0.240
			Red, Amber, Green, Blue	XVGB4W	0.280
With buzzer	LED for steady light	IP 42	Red, Green	XVGB2SW	0.210
			Red, Amber, Green	XVGB3SW	0.250
			Red, Amber, Green, Blue	XVGB4SW	0.290
With direct aluminium tube mounting					
Without buzzer	LED for steady light	IP 23	Red, Green	XVGB2T	0.350
			Red, Amber, Green	XVGB3T	0.390
			Red, Amber, Green, Blue	XVGB4T	0.430
With buzzer	LED for steady light	IP 23	Red, Green	XVGB2ST	0.360
			Red, Amber, Green	XVGB3ST	0.400
			Red, Amber, Green, Blue	XVGB4ST	0.440
With aluminium tube mounting and L-bracket					
Without buzzer	LED for steady light	IP 23	Red, Green	XVGB2	0.420
			Red, Amber, Green	XVGB3	0.460
			Red, Amber, Green, Blue	XVGB4	0.500
With buzzer	LED for steady light	IP 23	Red, Green	XVGB2S	0.430
			Red, Amber, Green	XVGB3S	0.470
			Red, Amber, Green, Blue	XVGB4S	0.510
With aluminium tube mounting and fixing plate					
Without buzzer	LED for steady light	IP 53	Red, Green	XVGB2H	0.320
			Red, Amber, Green	XVGB3H	0.360
			Red, Amber, Green, Blue	XVGB4H	0.400
With buzzer	LED for steady light	IP 42	Red, Green	XVGB2SH	0.330
			Red, Amber, Green	XVGB3SH	0.370
			Red, Amber, Green, Blue	XVGB4SH	0.410
With aluminium tube mounting and foldable bracket					
Without buzzer	LED for steady light	IP 40	Red, Green	XVGB2M	0.360
			Red, Amber, Green	XVGB3M	0.400
			Red, Amber, Green, Blue	XVGB4M	0.440
With buzzer	LED for steady light	IP 40	Red, Green	XVGB2SM	0.370
			Red, Amber, Green	XVGB3SM	0.410
			Red, Amber, Green, Blue	XVGB4SM	0.450

Accessories

Description	For use with	Reference	Weight kg
Folding mounting bracket for support tube mounting	XVB●H, XVB●SH	XVGZ02	0.090
Wall mounting bracket	XVB●T, XVB●ST	XVMZ02W	0.130

(1) The colors are listed in the same order as the mounting order of the illuminated units (from top to bottom).

Other versions Tower lights with other diameters (ranging from 40 mm to 100 mm) are available in other ranges. For more information, please refer to our website www.schneider-electric.com.

chapter 4

Switch Mode Power Supply: Phaseo Easy ABL2



Switch Mode Power Supply: Phaseo Easy ABL2

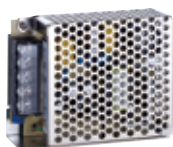
- Product overview..... page 29
- Product characteristics..... page 30
- Selection guide page 32
- Schematic diagram of reference page 32
- Dimension and mounting..... page 33

ABL2 switch mode power supplies

Function improvement

Customer benefits

Protection cover on terminal block



- ✓ ABL2 power supply products are equipped with plastic clip-on protective cover for terminal block

- ✓ Prevent terminal blocks from accidental contact to lead to electric shock when power-on, effectively enhancing safety

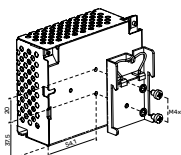
Auto-recovery protection



- ✓ Short-circuit/overload protection modes of all products are updated to auto-recovery mode

- ✓ Meet the demands of OEM customers for overload and short-circuit protection mode in a broader way

Key hold of housing



- ✓ Mounting holes for product's housing are all key holds
- ✓ The position of mounting holes of housing slightly varies from that of previous ABL2 versions, please see dimensional drawing for details

- ✓ Effectively address the power-on short circuit risks resulting from varying length of mounting screws on application spot

ABL2 advantages and selling points

> Leading technology

- ABL2 range power supply products are designed with the third generation of technology
- New technology ensures that products are smaller and reliable in performance, reduce downtime

> Compact

- ABL2 range power supply products possess a small mounting size, for cabinet space savings
- For the same power options, the product's volume is 80% of that of like product

> Core performance

- ABL2 range power supply products offer 7 power options
- Output voltage 24VDC (+/-10% adjustable)

35W/50W/
100W/150W



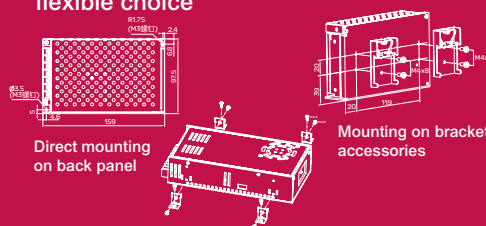
35W/50W/100W/150W
200W/250W/350W

Mainstream products in the market

Schneider Electric
ABL2

> Easy-to-install

- 3 types of mounting are available for flexible choice

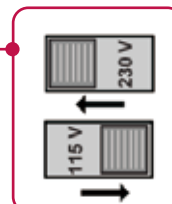


Mounting on rear DIN rail

A large, bold, red plus sign (+) centered on a white background. The plus sign has rounded ends on its horizontal and vertical bars.

ABL2 switch mode power supplies

- 100...240 VAC input, single-phase
- 24VDC output
- 7 power options in the range of 35-350W.
- Full range in compliance with EMC standard
- CE and RoHS certified
- Output voltage, +/-10% adjustable
- Green LED indicator at output terminal
- The product is equipped with plastic protective cover for terminal block as standard
- Mistake-proof mounting holes
- 115/230V AC input voltage selection
Automatic adaptation for 35/50W models
Manual selection by switch for 100-350W models



4

100% RoHS compliant

Energy-efficient and eco-friendly



Presentation

With the third generation of technology for switch mode power supply design, compact size and reliable performance, the ABL2REM range switch mode power supplies are specially designed to provide the d.c. voltage necessary for electrical equipment operating on a safety low voltage. The ABL2REM range power supplies are able to meet the needs encountered in standard commercial machines and conform to world-wide standard. As machine components, they are easy to install; 3 mounting options can fit various application requirements.

ABL2REM range switch mode power supplies are totally electronic. They provide the following benefits:

- Compact and space-saving mounting (35W/50W/100W/150W)
- A wide input voltage range from AC88 to 264V and DC110 to 370V (different power ranges vary, see product data sheet for details)
- A high degree of output voltage stability, adjustable with potentiometer
- Conformity to standard EN55022 class B
- Overload protection, short-circuit protection, over-voltage protection, thermal overload protection (thermal overload protection on 200-350W only)
- Identical standard rail mounting accessories for each reference

ABL2REM switch mode power supplies provide 24V DC output and are split into 7 power options:

DC 24V 35W, 50W, 100W, 150W, 200W, 250W and 350W

Electromagnetic compatibility

Levels of conducted and radiated emissions are defined in standards EN 55011 and EN 55022KH.

The ABL2REM range switch mode power supplies are class B that is the most rigorous class

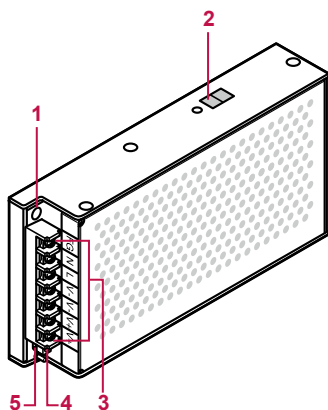
Short-circuit protection

ABL2 power supplies are equipped with electronic and thermal overload protection. This protection resets itself automatically on elimination of the fault, which avoids having to take any action or change a fuse.

Description

ABL2REM switch mode power supplies comprise:

- 1 Two fixing holes for M3 screws.
- 2 A 115/230V input voltage selector (on 100W, 150W, 200W, 250W and 350W versions only).
- 3 A 4 mm² screw clamp terminal block equipped with plastic protective cover as standard for connection of the AC input voltage and DC output voltage.
- 4 A green LED indicating status of the d.c. output voltage.
- 5 An output voltage adjustment potentiometer ($\pm 10\%$).



Technical specifications											
Power supply reference				ABL2REM							
				24015H	24020H	24045H	24065H	24085H	24100H	24150H	
Product certification/marker				CE , RoHS							
Conformity to standard input circuit	Safety standard			IEC/EN60950 compliant							
	General EMC			EN 61000-6-2,EN 61000-4-2,3,4,5,6,8,11,EN 55022 Class B							
	Low frequency harmonic current			-							
Input circuit											
LED indicating				-							
Nominal input value	Rated voltage			V	AC 100...240		AC 100...120 / 200...240				
	Limiting voltage	AC	V	88...264		88...132 / 180...264					
		DC compatible	V	110...370 (1)		255...370 (1)					
	Input current	U _{in} = 230 VAC	A	0.4	0.8	1	1.5	2.5	3.5		
		U _{in} = 115 VAC	A	0.8	1.3	2	3	5	7		
	Tolerance frequency			Hz	47...63						
	Max. input impact current			A	30		35		50		
	Efficiency at nominal load				> 83 %						
Output											
LED indicating				Green LED							
Nominal output value	Voltage (U _{Out})			V	DC 24						
	Current			A	1.5	2.2	4.5	6.5	8.3	10.5	14.6
	Power			W	35	50	100	150	200	250	350
Accuracy	Output voltage regulation				± 10%						
	Voltage tolerance				±1%						
	Ripple and noise			mV	< 100 (peak-peak value)						
Setup time				ms	500 (80 at load)						
Hold up time				ms	> 20 (10 at load)						
Protection	Short circuit				Hiccup decrease pattern, non-permanent shutoff						
	Overload				Hiccup decrease pattern, non-permanent shutoff (at rating overload of 120 to 160%)						
	Overvoltage				Shut off permanently						
	Thermal overload				N/A				Shut off permanently		
Shut off permanently											
Connection	Input			mm ²	(2+ground wire) x 4 (12AWG)						
	Output			mm ²	2 x 4 (12 AWG)		4 x 4 (12 AWG)				
Mounting					Panel mounting or rail mounting						
Operation position					Vertical or horizontal, refer to Page 08						
Connection	In series				Possible (up to 2), refer to Page 08						
	In parallel				Not allowed						
Environment	Temperature	Operating	°C	-20 to +70 (start derating since 50°C), refer to Page 08							
		Storage	°C	- 20...+ 85							
	Humidity	Operating	RH	20...90 %							
		Storage	RH	10...95 %							
	Temperature factor				± 0.03%/ °C (0-50°C)						
	Vibration				Conformity to standard EN61131-2						
Mean Time Between Failures (MTBF) at 25°C					> 350 khrs ,Mil-HDBK-217F						
Insulation voltage					I/ P-O/P:1.5 KVAC,I/P-FG:1.5KVAC,O/P-FG:0.5KVAC						
Insulation resistance					I/P-O/P,I/P-FG,O/P-FG:100 M ohms/500VDC						
Mechanical specifications											
Connection	Input			mm ²	(2+ground wire) x 4 (12AWG)						
	Output			mm ²	2 x 4 (12 AWG)		4 x 4 (12 AWG)				
Mounting					Panel mounting or rail mounting						
Dimensions (L*W*H)				mm	105*81*36	105*97*36	164*97*38	205*98*42	215*115*50		

(1) Not indicated on the product.

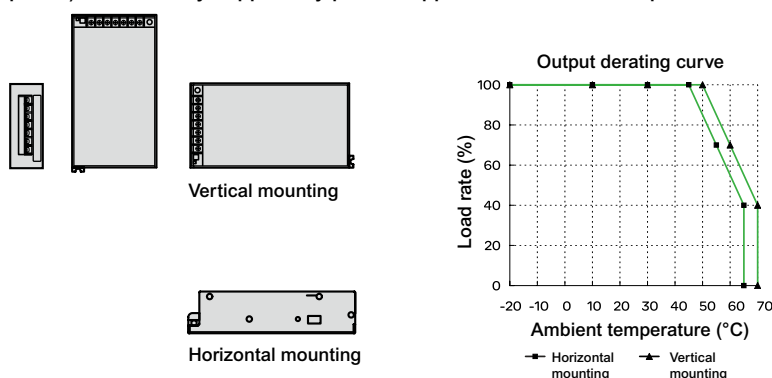
Output Specifications

Derating

Ambient temperature is a decisive factor restricting electronic power supplies to continuously supply power. In case electronic components have too high ambient temperature, their life will be significantly shortened.

The rated ambient temperature of ABL2REM range power supplies is +45°C (horizontal mounting) or +50°C (terminal to the left, vent hole upwards, vertical mounting). There is a derating when such temperatures rise until they reach 65°C (horizontal) and 70°C (vertical) at the maximum respectively.

The following curve gives the relation between output power (related to rated power) continuously supplied by power supplies and ambient temperature.



Extreme operating conditions

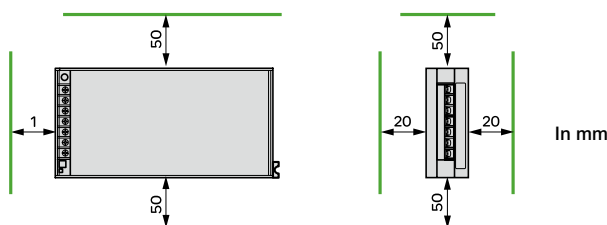
Under extreme operating conditions, derating should be considered:

- Heavy duty operation (output current should be close to rated current for a long time, while having higher ambient temperature)
- Output voltage higher than 24V

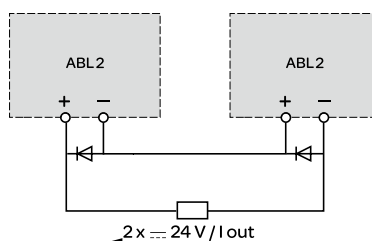
General rules to be followed

Heavy duty operation	Refer to Derating Curve Chart
Rising output voltage	Nominal power is constant. The rise of output voltage means it is a must to offer reduced current.

In any case, there must be enough air flow convection around the power supply to ensure good cooling, and there must be space of 50mm above and under it as well as space of 20mm at its side. Exhaust outlets for 200W/250W/350W models should not be obstructed.

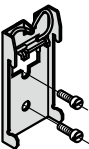


In series

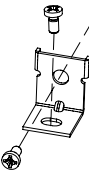




ABL 2REM24020H



ABL 2A02



ABL 2A01

Reference						
ABL2 switch mode power supplies: ABL 2REM						
Input voltage	Output voltage	Nominal power	Nominal current	Auto- protect reset	Voltage switching	Reference
47...63Hz	--- V	W	A			
AC 100...240 (1)	24	35	1.5	Automatic	Automatic	ABL 2REM24015H
single-phase wide range		50	2.2	Automatic	Automatic	ABL 2REM24020H
AC 100...120	24	100	4.5	Automatic	Manual	ABL 2REM24045H
AC 200...240 (2)		150	6.5	Automatic	Manual	ABL 2REM24065H
single-phase		200	8.3	Automatic	Manual	ABL 2REM24085H
		250	10.5	Automatic	Manual	ABL2REM24100H
		350	14.6	Automatic	Manual	ABL 2REM24150H

- (1) Compatible input voltages from DC 110...370 V not indicated on the product
(2) Compatible input voltages from DC 255...370 V not indicated on the product

Mounting accessories				
Description	For power supplies	Order in multiples of	Unit reference	Weight kg
Clip-on mounting plate for 35 mm mounting rail	ABL2REM24015H/020H: the plate mounting on requires one mounting plate ABL2REM24045H/065H/085H/100H/150H: the plate mounting on requires 2 mounting plates	5	ABL2A02	0.035
Brackets for panel mounting	ABL2REM24085H/100H/150H: each product requires four additional lugs; (note: mounting screws are not equipped as standard. It is recommended to use M4*6mm or M4*8 screws	40	ABL 2A01	0.001

4

Reference description

ABL2REM

Range name:
• ABL2REM

24

Output voltage:
• 24V DC

045

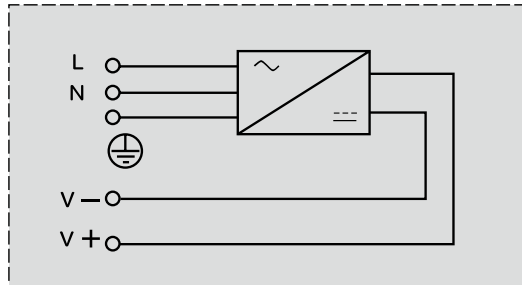
Output current/
power:
• 015 (1.5A/35W)
• 020 (2.2A/50W)
• 045 (4.5A/100W)
• 065 (6.5A/150W)
• 085 (8.3A/200W)
• 100 (10.5A/250W)
• 150 (14.6A/350W)

H

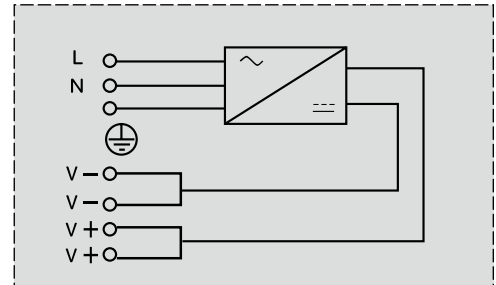
Version number

Schematic diagram

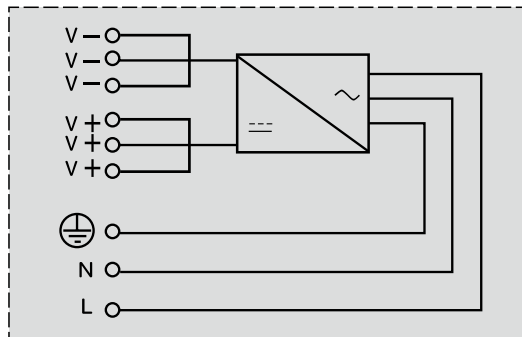
ABL 2REM24015H,24020H



ABL 2REM24045H,24065H



ABL 2REM24085H,24100H,24150H

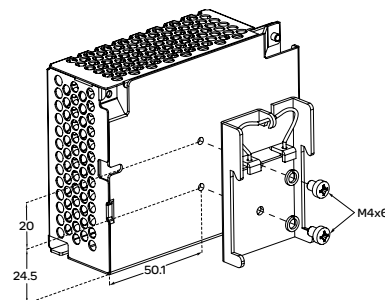
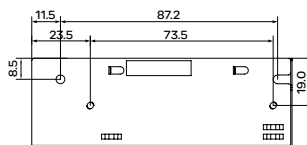
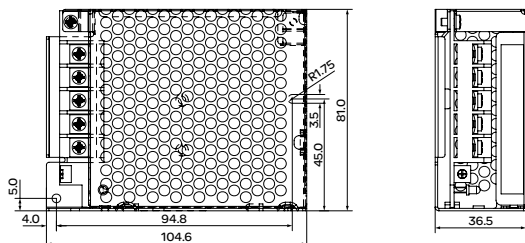


Dimension and mounting (in mm)

ABL 2REM24015H

Direct mounting through 2 pieces of M3 screws

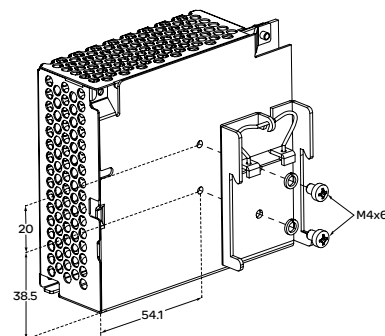
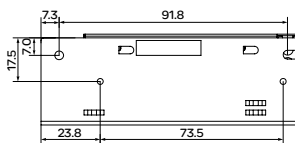
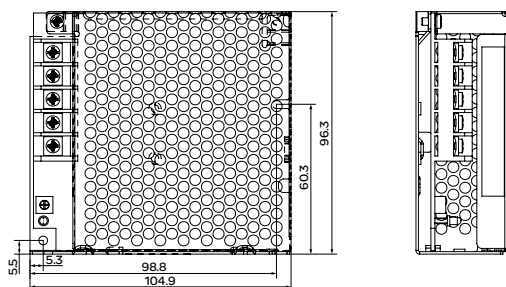
DIN rail mounting, requiring accessories ABL2A02



ABL 2REM24020H

Direct mounting through 2 pieces of M3 screws

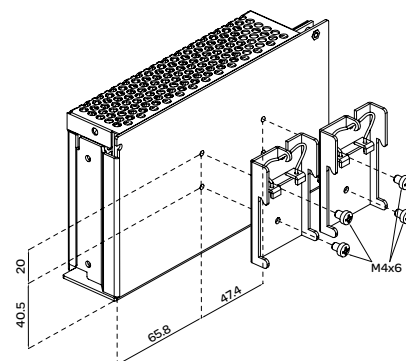
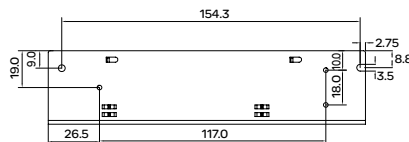
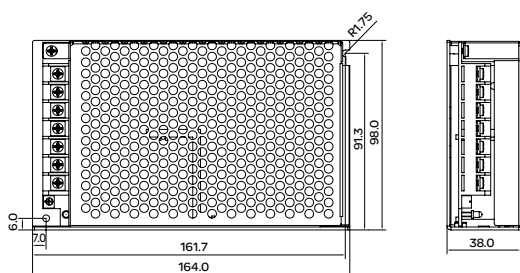
DIN rail mounting, requiring accessories ABL2A02



ABL 2REM24045H

Direct mounting through 2 pieces of M3 screws

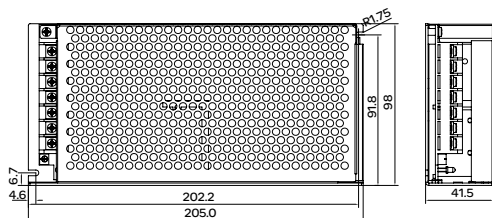
DIN rail mounting, requiring accessories ABL2A02



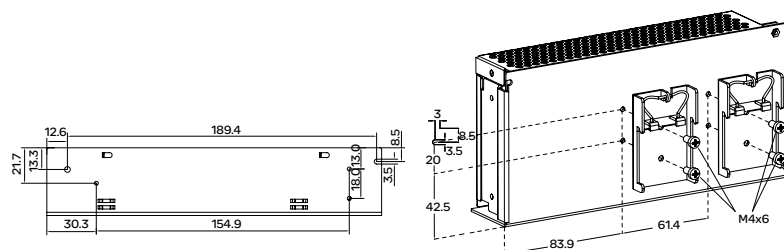
Dimension and mounting (in mm)

ABL 2REM24065H

Direct mounting through 2 pieces of M3 screws

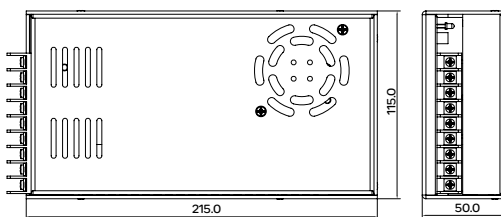


DIN rail mounting, requiring accessories ABL2A02

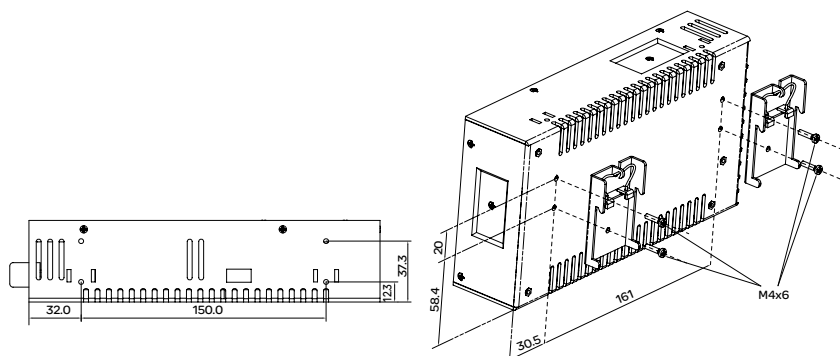


ABL 2REM24085H/100H/150H

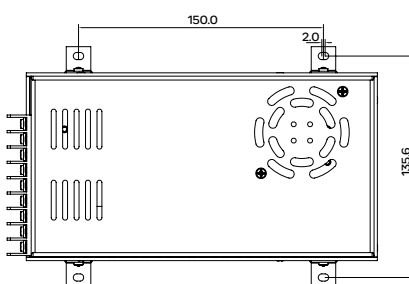
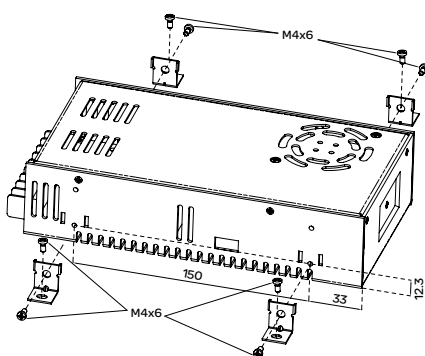
Direct mounting through 2 pieces of M3 screws



DIN rail mounting, requiring accessories ABL2A02



Mounting on four-corner lugs, requiring accessories ABL2A01



Note: All mounting holes for housing of ABL2 products are key holds, which can effectively prevent power-on short circuit risks resulting from too long mounting screws; and, too long screws can affect product performance, so it is recommended to use M4*6mm or M4*8 screws.

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