

A

B

C

D



Part of **Easy** series  
Designed for the essential  
Motor starters from 6 to 630 A

E

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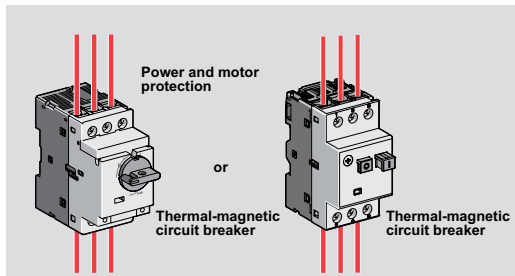
H



## 2 principles to build your starter solution

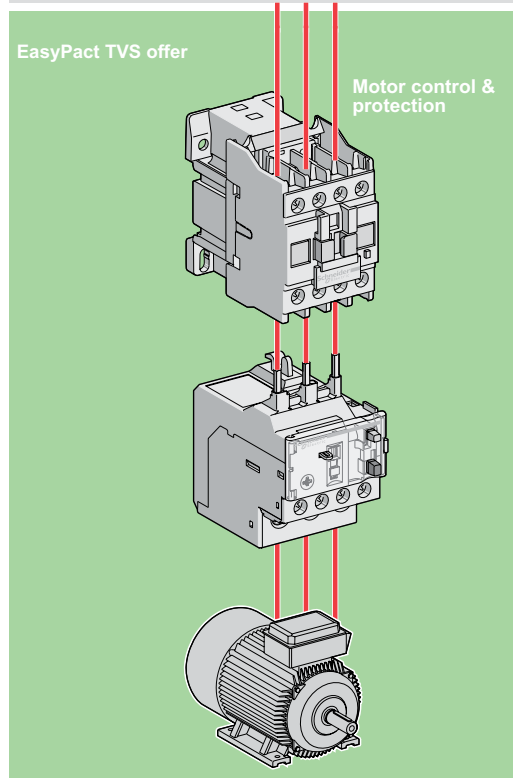
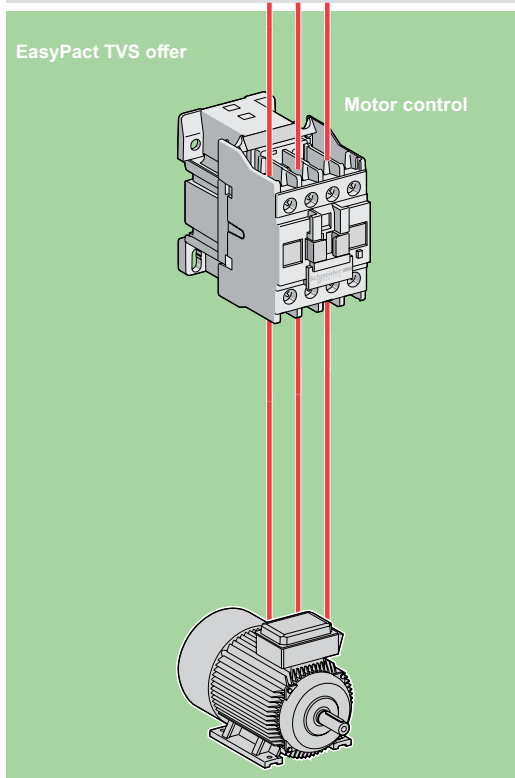
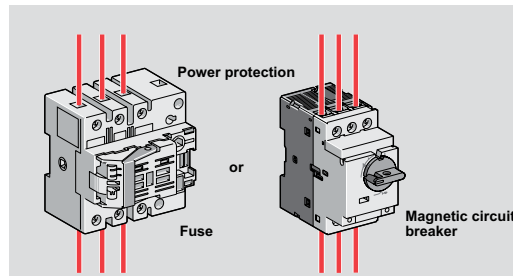
### 2-components solution

(Thermal-magnetic circuit breaker + Contactor)



### 3-components solution

(Magnetic circuit breaker or fuse + Contactor + TOR)



To build the essential solutions in an easy and simple way

Control			Terminal block
Reverser starter			Star-Delta solution



# General overview EasyPact TVS

A

## EasyPact TVS range

Comprehensive, simple,  
and capable motor starter solutions

EasyPact™ TVS provides all the performance, reliability, and cost-effectiveness required to meet the majority of LV motor starter needs.

B

Precision engineered to deliver the optimal set of capabilities, EasyPact TVS is a value-leader and ideal choice for AC1 and AC3 applications in HVAC, textile, material handling, and manufacturing environments, to name just a few.

Choose EasyPact TVS when you need to cover the broadest range of motor starting applications, simply, easily, and effectively.

C



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Complete  
range%  
of motor starter solutions

80 years  
of leadership in motor  
starter technology

## Part of the EasyPact family of protection and control solutions

The EasyPact TVS range of motor starters delivers the perfect balance of:

### The performance you need

Application-optimized EasyPact TVS features answer 80% of your motor starting needs.

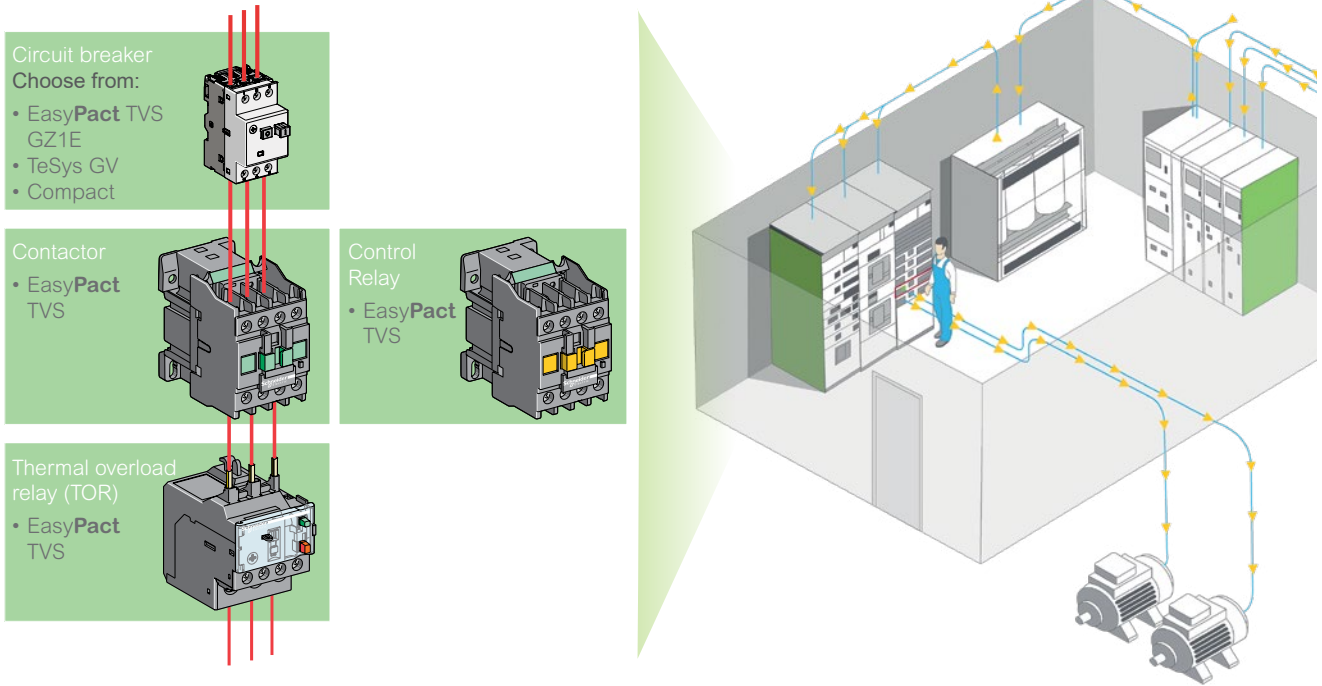
### At a cost-effective investment

With simplicity of selection, purchasing, stocking, and installation designed into every unit, pay only for what you need and avoid specifying lower quality alternatives just to obtain excellent value.

### With the quality you demand

Using advanced manufacturing methods and premium materials, EasyPact TVS delivers the Schneider Electric commitment to quality without compromise.

## The performance you need



- A
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## Four products to protect and control

Electric motors keep processes and facilities running, help enhance productivity and, when effectively controlled, keep costs in line.

EasyPact TVS solutions give you everything you need to control and protect motor loads in a wide variety of applications. Each essential component is compact while being quick and easy to install.

They combine seamlessly together to provide all of the essential functions for reliable control, with overload and short circuit protection.

**80%**  
of common applications covered

## Delivering the essential capabilities

### Motor protection circuit breaker

- One size from 0.37 to 15 kW
- Width = 44.5 mm
- Icu breaking capacity up to 100 kA.

### Thermal overload relay

- The complete range offers optional direct mounting under contactors
- Class 10 A.

### Contactor

- Nine sizes from 6 to 630 A
- 2.2 kW to 335 kW (AC3 / 400 V)
- AC control
- Embedded auxiliary contacts.

### Control relay

- Choose from three combinations of contact types: 2 NO / 2 NC, 3 NO / 1 NC, 4 NO / 0 NC.



# General overview EasyPact TVS

A

## A cost-effective investment Optimized cost and maximum flexibility

In response to increasingly tight budgets in today's cost-conscious business environment, the EasyPact TVS range has been engineered with optimization in mind. All components provide an optimum range of features, performance, and quality at their price point.

B



### Extended flexibility

A maximum number of solutions are covered with an extended range of products, helping you reduce stocking requirements and simplify design.

### 9 sizes

cover common applications from 6 to 630 A

C

D



Introducing a motor protection circuit breaker that completes the EasyPact TVS range, making it one of the broadest choices of motor starter solutions in its class.

### Easy ordering and stocking

An intuitive sales reference system ensures EasyPact TVS components are straightforward to understand, order, and stock.

E



Direct mounting of contactor and TOR reduces installation time and saves panel space.

### Easy installation

EasyPact TVS components are easy to install in new panels or retrofit in existing motor control panels. Devices are designed for compatibility, which reduces the amount of cabling and time required, while enhancing reliability.

F

## Key accessories for do-it-yourself solutions

G

### Control

- Auxiliary contact block (LAEN).

### Star Delta

- Time delay auxiliary contact block (LAETSD).

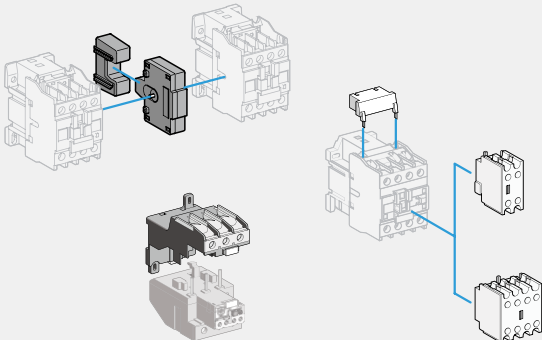
H

### Reversing starter

- Mechanical interlock (LAEM).

### Terminal block

- Enables separate mounting of thermal overload relay (LAEB).



## The quality you demand The reliability and expertise you depend on

Being the Global Specialist in Energy Management™ means more than simply supplying industry-leading products, integrated solutions, and comprehensive services to customers around the world. It also means leveraging our strong local presence and multidisciplinary expertise to ensure all your projects deliver more for less-on time and on budget.

### Choose the leader

Schneider Electric leadership in energy management and power protection has resulted in an unparalleled portfolio of high quality products trusted for use in demanding applications.

All offers are easy to find and order, and you can count on our global network of skilled sales, engineering, and support professionals to help you be your most efficient.

### An assurance of safety

The EasyPact TVS range conforms to the IEC 60947 standards, and all components are fully tested, approved, and certified by national, international, and third party organizations.

### Proven quality

When you want exceptional quality and value in a motor starter, turn to Schneider Electric.

The EasyPact TVS range is manufactured from premium materials in ISO 9001 and ISO 14000 certified production plants.

### Motor protection circuit breaker

The EasyPact TVS circuit breaker is design specifically for motor protection applications, offering simplicity in a single size combined with breaking capacity performance up to 100 kVA.

### Control relay

Three types of EasyPact TVS control relays, with 4 normally open (NO) and normally closed (NC) contacts, support any requirement to interface EasyPact TVS contactors with manual control devices or automation equipment.

ISO9001  
ISO14000  
quality certified  
manufacturing

100%  
Commitment to quality



# EasyPact TVS contactors

## 3-pole contactors from 6 to 630 A

A

B

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<b>Size</b>		1					2		3		
<b>Rated operational current AC-3</b>	<b>A</b>	6	9	12	18	25	32	38	40	50	65
<b>Rated operational current AC-1</b>	<b>A</b>	20	25		32	36	50		60	70	80
<b>Rated operational power in AC-3</b>	<b>220/230 V</b>	1.1	2.2	3	4	5.5	7.5	9	11	15	18.5
	<b>380/400 V</b>	2.2	4	5.5	7.5	11	15	18.5	18.5	22	30
	<b>415/440 V</b>	2.2	4	5.5	9	11	15	18.5	22	25/30	37
	<b>500 V</b>	3	5.5	7.5	10	15	18.5	18.5	22	30	37
	<b>660/690 V</b>	3	5.5	7.5	10	15	18.5	18.5	30	33	37
<b>Width</b>	<b>mm</b>	45				45.5	56	75			
<b>Coil rated operating voltage</b>		24...440 V AC according to the coil voltage code (see below)									
<b>Auxiliary built in contact</b>		1 NO or 1 NC						1 NO + 1 NC			
<b>References <sup>[1]</sup></b>		<b>LC1E06</b>	<b>LC1E09</b>	<b>LC1E12</b>	<b>LC1E18</b>	<b>LC1E25</b>	<b>LC1E32</b>	<b>LC1E38</b>	<b>LC1E40</b>	<b>LC1E50</b>	<b>LC1E65</b>

[1] Partial.


Check the catalogue for complete references, see page 151.



# Functions and characteristics

## EasyPact TVS contactors

### 3-pole contactors from 6 to 630 A

									
4	5	6	7	8	9				
80	95	120	160	200	250	300	400	500	630
110	120	150	200	250	300	320	500	700	1000
22	25	37	45	55	75	90	110	147	185
37	45	55	75	90	132	160	200	250	335
45	45	59	80	100	140	160/185	220/250	280/295	375/400
45	55	75	90	110	160	200	257	355	400
45	45	80	100	110	160	220	280	335	450
85	120	168.5	213	213	233	309			
1 NO + 1 NC		-		-					
LC1E80	LC1E95	LC1E120	LC1E160	LC1E200	LC1E250	LC1E300	LC1E400	LC1E500	LC1E630

### Common characteristics

• Contactors compatible with:



LAEN● auxiliary contact blocks.



LAETSD time delay auxiliary contact (from 25 A contactor).



LAERC●● RC switch suppressor (up to 95 A).



LAEM● mechanical interlock.



LAEP● set of power connections (up to 95 A).

### Utilisation categories

- Class AC-1: AC loads with  $\cos \phi$  at least equal to 0.95 (resistive load, heating, distribution, etc.)
- Class AC-3: squirrel-cage motors with breaking taking place with the motor running.





## Functions and characteristics

# EasyPact TVS contactors

## 4-pole contactors from 6 to 95 A

Size	1				2				3			4		
<b>Rated operational current AC-3</b>	<b>A</b>	6	9	12	18	25	32	38	40	65	80	95		
<b>Rated operational current AC-1</b>	<b>A</b>	16	20	25	32	40	45	60	60	80	100	125		
<b>Width</b>	<b>mm</b>	45				56				84.5			95.5	
<b>Coil rated operating voltage</b>		24...415 V AC according to the coil voltage code (see below)												
<b>Auxiliary built in contact</b>		no built in contact												
<b>References <sup>[1]</sup></b>		LC1E06	LC1E09	LC1E12	LC1E18	LC1E25	LC1E32	LC1E38	LC1E40	LC1E65	LC1E80	LC1E95		

[1] Partial.

Check the catalogue for complete references, see page 151.

## Common characteristics

- Contactors compatible with:



LAEN● auxiliary contact blocks.



LAETSD time delay auxiliary contact (from 25 A contactor).



LAERC●● RC switch suppressor (up to 95 A).

# Functions and characteristics

## EasyPact TVS thermal overload relays



### Presentation

EasyPact TVS thermal overload relays are designed to protect a.c. circuits and motors against:

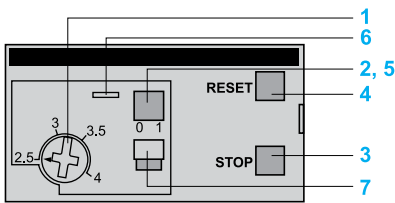
- overloads
- phase failure
- long starting time
- prolonged stalled rotor condition.

The thermal relay controls permanently the current driven by the motor. When this current exceeds the setting it's auxiliary contacts will change state, causing the motor to stop.

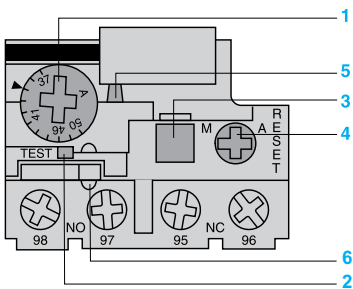
### Description

- 1 Adjustment dial Ir.
- 2 Test button.  
Operation of the Test button allows:
  - checking of control circuit wiring,
  - simulation of relay tripping (actuates both the N/O and N/C contacts).
- 3 Stop button. Actuates the N/C contact; does not affect the N/O contact.
- 4 Reset button.
- 5 Trip indicator.
- 6 Setting locked by sealing the cover.
- 7 Selector for manual or automatic reset.

LRE relays are supplied with the selector in the manual position, protected by a cover. Deliberate action is required to move it to the automatic position.



LRE●●, LRE48●



LRE3●●



# EasyPact TVS thermal overload relays



TOR Com. Ref	Possible I <sub>max</sub> Calibration	Compatible with Contactor (size 1 & 2) Com. Ref.						
		LC1E06	LC1E09	LC1E12	LC1E18	LC1E25	LC1E32	LC1E38
LRE01	0.10...0.16 A	■	■	■	■	■	■	■
LRE02	0.16...0.25 A	■	■	■	■	■	■	■
LRE03	0.25...0.40 A	■	■	■	■	■	■	■
LRE04	0.40...0.63 A	■	■	■	■	■	■	■
LRE05	0.63...1 A	■	■	■	■	■	■	■
LRE06	1...1.6 A	■	■	■	■	■	■	■
LRE07	1.6...2.5 A	■	■	■	■	■	■	■
LRE08	2.5...4 A	■	■	■	■	■	■	■
LRE10	4...6 A	■	■	■	■	■	■	■
LRE12	5.5...8 A		■	■	■	■	■	■
LRE14	7...10 A		■	■	■	■	■	■
LRE16	9 ...13 A			■	■	■	■	■
LRE21	12...18 A				■	■	■	■
LRE22	16...24 A					■	■	■
LRE32	23...32 A					■	■	■
LRE35	30...38 A							■

## Common characteristics

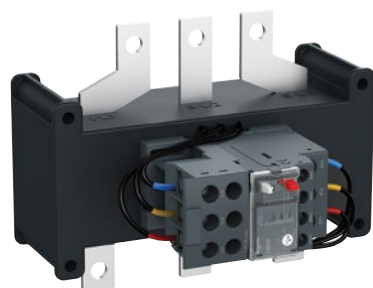
- Class: 10 A.
- Operating voltage: max. 690 V AC.

# Functions and characteristics

## EasyPact TVS thermal overload relays



TOR Com. Ref	Possible I <sub>max</sub> Calibration	Compatible with Contactor (size 3 & 4) Com. Ref.				
		LC1E40	LC1E50	LC1E65	LC1E80	LC1E95
LRE322	17...25 A	■	■	■	■	■
LRE353	23...32 A	■	■	■	■	■
LRE355	30...40 A	■	■	■	■	■
LRE357	37...50 A		■	■	■	■
LRE359	48...65 A			■	■	■
LRE361	55...70 A				■	■
LRE363	63...80 A				■	■
LRE365	80...104 A					■



TOR Com. Ref	Possible I <sub>max</sub> Calibration	Compatible with Contactor (size 5, 6, 7, 8 & 9) Com. Ref.							
		LC1E120	LC1E160	LC1E200	LC1E250	LC1E300	LC1E400	LC1E500	LC1E630
LRE480	51...81 A	■	■	□	□	□	□	□	□
LRE481	62...99 A	■	■	□	□	□	□	□	□
LRE482	84...135 A	■	■	□	□	□	□	□	□
LRE483	124...198 A		□	■	□	□	□	□	□
LRE484	146...234 A			□	■	■	■	□	□
LRE485	174...279 A			□	■	■	■	□	□
LRE486	208...333 A				■	■	■	□	□
LRE487	259...414 A					■	■	□	□
LRE488	321...513 A						□	■	□
LRE489	394...630 A							□	■

**Note:**

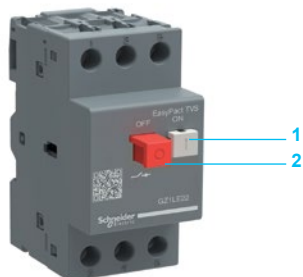
- means the relay can match with contactor both in electrical and mechanical.
- means the relay can match with contactor only in electrical (can not directly mounting).



## Functions and characteristics

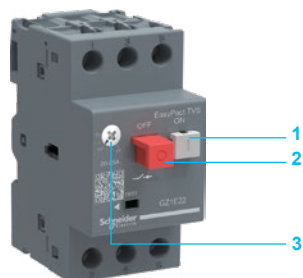
# EasyPact TVS motor protection circuit breaker GZ1 0.1 A to 32 A

A



GZ1LE

B



GZ1E

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D

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### Presentation

#### Connection

These circuit-breakers are designed for connection by screw clamp terminals. This technique ensures secure, permanent and durable clamping that is resistant to harsh environments, vibration and impact and is even more effective when conductors without cable ends are used. Each connection can take two independent conductors.

#### Motor ON/OFF pushbutton control

Energisation is controlled manually by operating the Start button "I" **1**. De-energisation is controlled manually by operating the Stop button "O" **2**, or automatically by the thermal-magnetic protection elements or by a voltage trip attachment.

#### Protection of motors and personnel

For thermal magnetic circuit breakers GZ1E, Motor protection is provided by the thermal-magnetic protection elements incorporated in the motor circuit-breaker. The magnetic elements (short-circuit protection) have a non-adjustable tripping threshold, which is equal to about 13 times the maximum setting current of the thermal trips.

The thermal elements (overload protection) include automatic compensation for ambient temperature variations.

The rated operational current of the motor is displayed by means of a graduated knob **3**.

For magnetic circuit breakers GZ1LE, motor protection is provided by the magnetic protection elements incorporated in the motor circuit breaker.

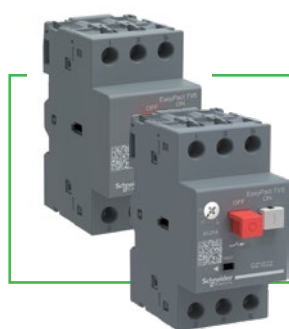
Personnel protection is also provided. All live parts are protected against direct finger contact.

GZ1 E motor circuit-breakers are easily installed in any configuration thanks to their universal fixing arrangement: screw fixing or clip-on mounting on symmetrical, asymmetrical or combination rails.

#### Motor circuit breakers versus fuse protection?

Circuit breakers are a common solution for protecting motor against short circuits and overloads. As a comparison, a fuse based solution can only provide a partial protection depending on the choice of the fuse type and rating. The thermal magnetic circuit breaker is adjustable and can be fine-tuned to the practical motor load.

The fuse based solution offers a very fast protection.



# EasyPact TVS motor protection circuit breaker GZ1 0.1 A to 32 A

## Circuit breakers for motor protection and control

EasyPact TVS motor circuit breakers GZ1 provide easy and essential solutions for:

- isolation
- protection against short circuits and overloads
- on-off manual control of motors up to 15 kW.

They are conforming to, depending of the versions, IEC 60947-2 and IEC 60947-4-1.

## EasyPact TVS protection technologies

Motor circuit breakers GZ1 are carried with 2 variants:

- thermal-magnetic: GZ1E for protection against short-circuit, overload, phase loss and phase unbalance
- magnetic detection: GZ1LE for protection against short-circuit.

With a magnetic circuit breaker, a thermal relay is frequently associated in order to have a short circuit protection and an overload protection.

## GZ1 range overview

Molded case circuit breakers for motor protection and control.



GZ1LE



GZ1E

GZ1						
	Protection against		Range	Control	Terminals	Dimensions (W x H x D)
	Short-circuits	Overload				
GZ1LE	■		Up to 15kW	Push button	Screw clamp	44.5 x 89 x 66
GZ1E	■	■	Up to 15kW	Push button	Screw clamp	44.5 x 89 x 66



Innovation that protects:  
Learn about  
the technical information  
of the EasyPact TVS  
range here



Offer



Catalogue

Scan or  
click on  
QR code

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