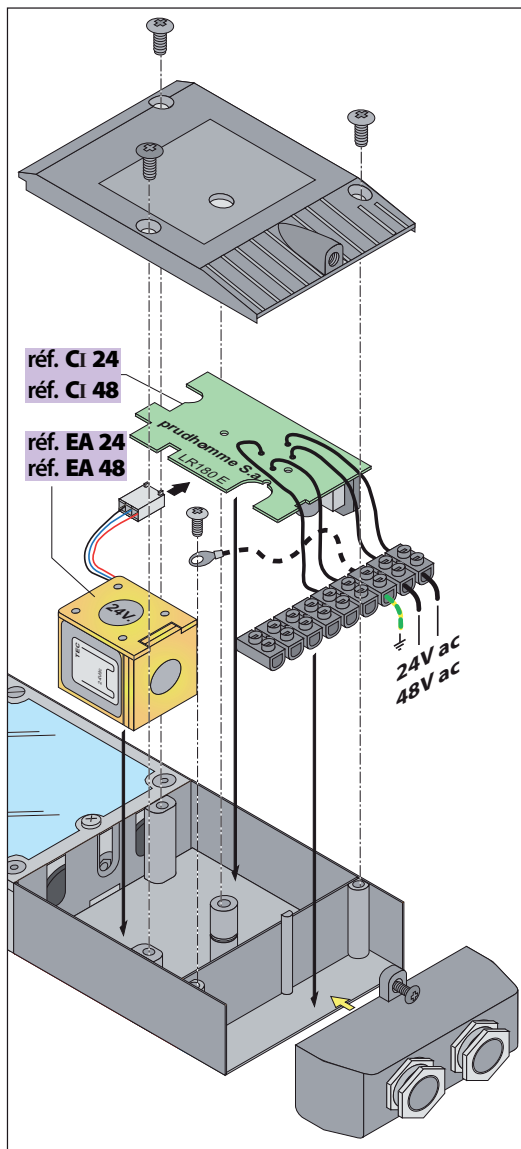
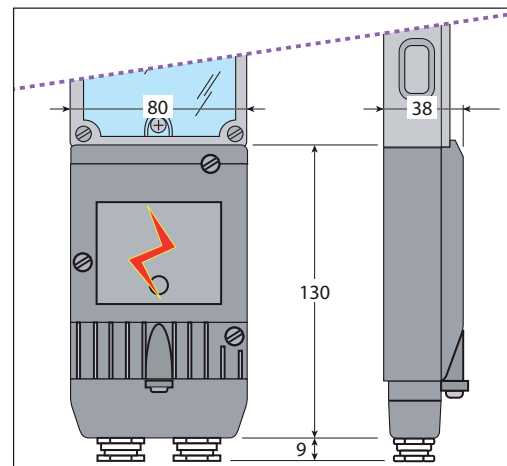
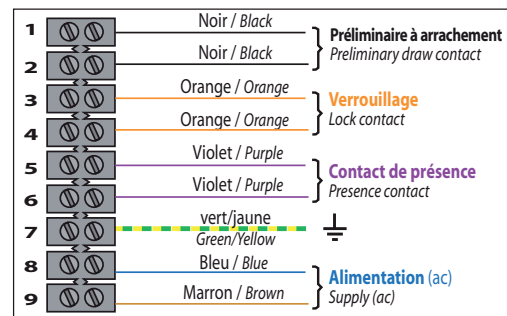


# LR180 E

# Electrical lock (24 or 48V ac)



### Wiring



### Operating conditions and preliminary checks before commissioning :

Like the LR180 E lock, the LR180-E lock has been created to replace the set "lock + retiring cam" in case, the retiring cam cannot be installed (lift for handicapped people, adjacent opening, etc). The LR180 E lock is conceived to remain in the released position under a permanent current supply.

### Principle :

The calling coil of an electromagnet, associated to a whole electromechanical, unlock the lock on a maintained electrical current. Once this release has been obtained, the current switch into a low consumption which holds its position indefinitely.

### Operation

Nominal voltage (ac)	24 V	48 V
Maximal voltage of utilisation	26 V	51 V
Inrush current	4,5 A	3 A
Holding current	150 mA	50 mA

Maxi ambient temperature	-25°C to +70°C
Storage temperature	-40°C to +80°C
Unlocking time	≈ 300 ms
Admissible frequency	50 / 60 Hz
Maxi cycle	120 / hour
Weight	1,37 Kg

### Mechanical operation :

- If the door is closed and the lock not under power, you should operate the lock using triangular key. While locking and unlocking, the lock must remain lightly and smoothly, and the bolt should move freely.
- If the door is under power, open and close the door to check if (when it is closed, the door should always touch the upright at the same place (to avoid variation in the latch position).
- If there is no catch, or equivalent, position a magnetic catch, for example, between the door and the upright.
- To prevent automatic opening doors jamming, make sure that the door opening signal has been sent at least 1 second after the signal to the lock, (the average opening time for the LR128 E at 20°C is 0.6 second).

### Electrical operation (under power) :

The voltage and current must be measured at the lock terminal. When the lock is operating, the reading must be :

- 24 Volts / 5 Amperes  
(4 Amp. minimum)
- 48 Volts / 3 Amperes  
(2,8 Amp. minimum)

To check the value during, it is necessary to proceed as follow :

- Connect a voltmeter and an ammeter to the lock terminals.
- Open the door and tab the lock tom make the bolt come out.

- Hold the bolt firmly with your hand in order to prevent its moving.
- Switch on the lock.
- Read the values.



**Note :** this procedure should not take more than a few seconds

### Relationship between cross section and length of main cable.

For perfect functioning, increase lifetime and effectiveness of the internal safety devices, it is necessary to ensure that :

1/ the relationship between the cross section and the length of cable complies with the following table.

2/ the transformer rating must be at least :

- 150 VA for 24Volts alternative and 180 VA for 48 Volts alternative.
- 150 VA minimum pour du 24 Volts alternatif,
- 180 VA minimum pour du 48 Volts alternatif).

Lg.24 = maximum authorised in permitted cable at 24 V

Lg.48 = maximum authorised in permitted cable at 48 V

The cable length is the distance between the lock and the transformer (or battery) terminal.



- **Note 1 :** if the cable is coiled within the control enclosure, the extra length should be accounted for in the cable length.

- **Note 2 :** if the lock has a DC supply from a transformer, the output voltage from the rectifier will be less than the voltage from the transformer.(Input 24.V ac = Output 21.7.V.dc) or (Input 48.V.ac = Output 43.2.V.dc).

- **Note 3 :** parasitic resistance should be taken into account (relays contact, reduction in cross section of the wire when stripped, poor contact, etc. . .).

AWG (jauge)	Sect. (mm <sup>2</sup> )	Lg.24 (m)	Lg.48 (m)
	0,75	12	100
18	0,82	13	110
	1,00	16	130
16	2 x 0,75	23	180
	1,50	27	200
15	1,65	31	230
	2 x 1,00	33	240
14	2,08	40	290
	2,50	50	+350
13	2 x 1,50	54	+350

### Additional information on mains cable :

The following table shows typical values for various sizes of copper cores. These values are given for information only, for 1 meter of cable (i.e. for 2 meters of conductor).

AWG	Sect.	Dia	Ω	↓T5	↓T3
	0,75	0,98	0,043	0,213	0,128
18	0,82	1,02	0,039	0,195	0,117
	1,00	1,13	0,032	0,160	0,096
16	1,31	1,29	0,024	0,122	0,073
	1,50	1,38	0,021	0,106	0,063
15	1,65	1,45	0,019	0,096	0,058
14	2,08	1,63	0,015	0,076	0,046
	2,50	1,78	0,013	0,064	0,038
13	2,63	1,83	0,012	0,061	0,036

AWG : American Wire Gauge

Sect. : Cross section of Core (mm<sup>2</sup>)

Dia. : diameter of core (mm)

Ω : Nominal resistance in Ohm per meter of cable at 20°C.

↓T5 : Nominal voltage drop in volt per meter of cable at 5 A

↓T3 : Nominal voltage drop in volt per meter of cable at 3 A

### Safety feature :

The LR180 E has two safety devices : overcurrent and temperature

EJECTION TIME OF THE OVERCURRENT SAFETY DEVICE	
15 seconds	24 V
7 seconds	48 V

EJECTION LIMIT OF THE OVER TEMPERATURE SAFETY DEVICE	
120° C	Without joule effect
95° C	With joule effect

Automatic reset by removing current in the coil after ambient temperature.

\* retained inopportune of the pin, non-respect of functions conditions.



### NOTICE :

**An operating current less than the required minimum (4 A at 24 V and 2,8A at 48 V or an inadequacy rated transformer will prevent the safety devices operating correctly.**

If several locks on the same floor to open the same time, the supply rating must be calculated appropriately.

**Failure to comply with the above recommendations may invalidate the guarantee.**

### Equipment :

- 3 emergency release triangles (2 on the base of the lock and 1 on the face)
- 1 lock contact 1A – 220 V
- 1 presence contact 1A -220 V
- 1 draw contact 1A- 220 V
- option : safety module ref MS02 (24 V) and MS04 (48V)

**Only** the presence of the lock keeper (placed in front of the pin) authorise the door to lock immediately.

**Only** the mechanical locking system of the door can operate the electrical lock contact by pin penetration (7mm or 0.275 mini) into the lock keeper.

### 1. Lock Continuously Under Power :

LOCK	UNLOCKED
DOOR	CAN BE OPENED
LOCK CONTACT	OPEN
PRESENCE CONTACT	CLOSED
CAR READY TO GO	<b>IMPOSSIBLE</b>

### 2. Lock Connected To Power :

#### 2.1. Normal Operation

LOCK	LOCKED
DOOR	CLOSED AND LOCKED
LOCK CONTACT	CLOSED
PRESENCE CONTACT	OPEN
CAR READY TO GO	AUTHORISED

#### 2.2. Unusual Operation (Accidental Power Failure)

##### 2.2.1. Landing Entrance

OPENED LOCK	SAFETY POSITION NO VOLTAGE
LOCK CONTACT	OPEN
PRESENCE CONTACT	OPEN
CAR READY TO GO	<b>IMPOSSIBLE</b>

##### 2.2.2. Landind Entrance In Position Of Closing

LOCK	SAFETY POSITION THEN LOCKING
LOCK CONTACT	OPEN THEN CLOSED
PRESENCE CONTACT	OPEN
CAR READY TO GO	IMPOSSIBLE THEN AUTHORISED

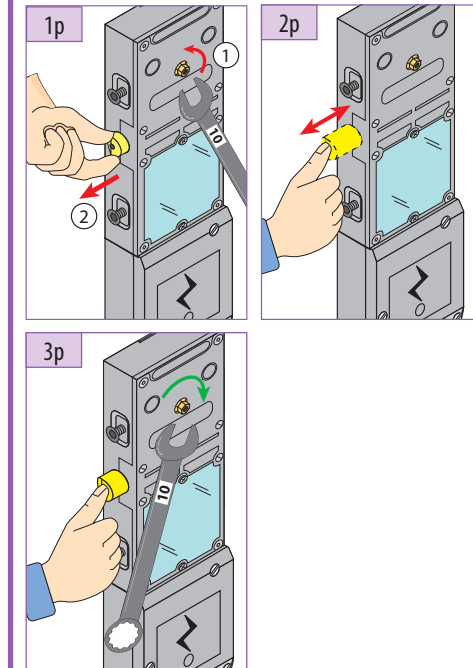
### 2.2.3. Landing Entrance Closed

LOCK	LOCKED
LOCK CONTACT	CLOSED
PRESENCE CONTACT	OPEN
CAR READY TO GO	IMPOSSIBLE THEN AUTHORISED

### 3. Lock Keeper (Defect Position)

LOCK	SAFETY POSITION
DOOR	NOT CLOSED CORRECTLY
LOCK CONTACT	OPEN
PRESENCE CONTACT	OPEN
CAR READY TO GO	<b>IMPOSSIBLE</b>

### Pin adjustment

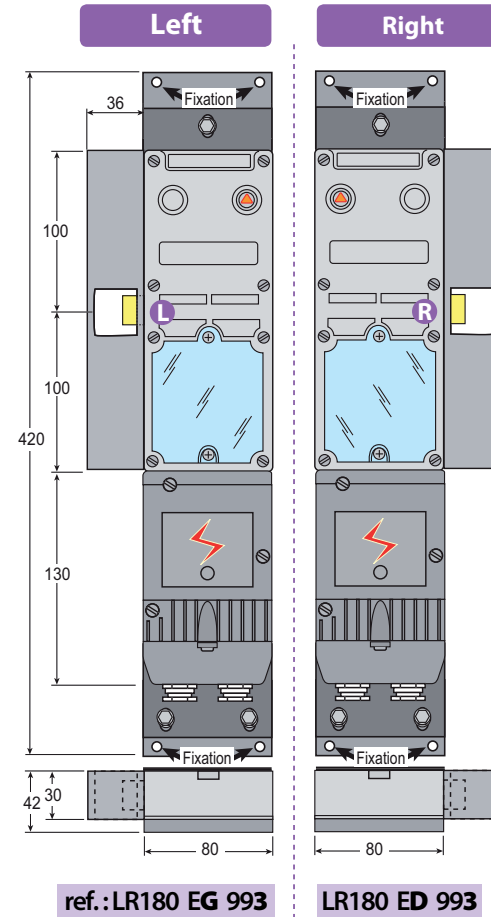
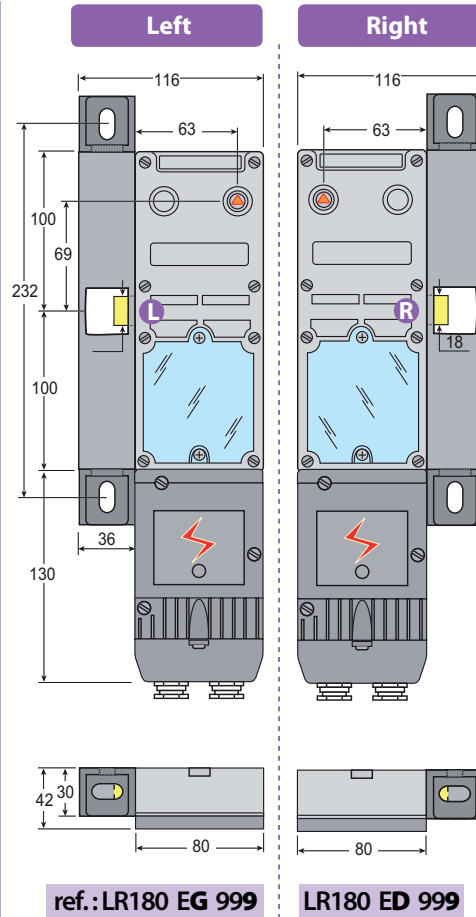
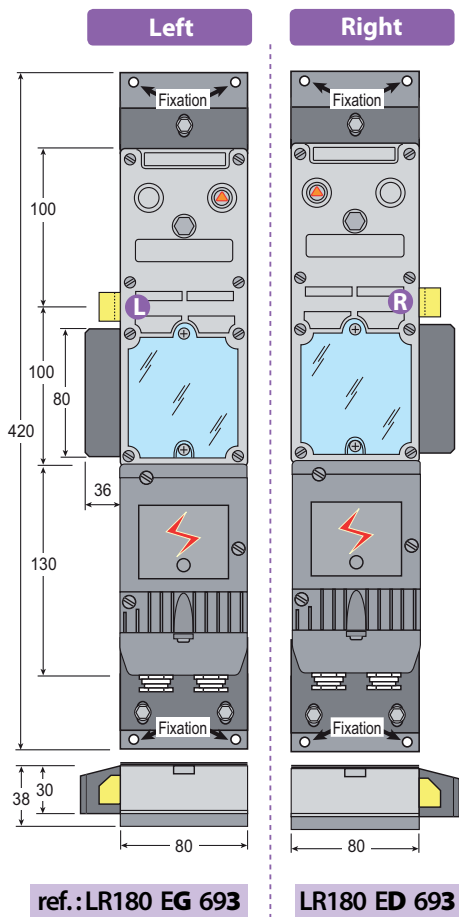
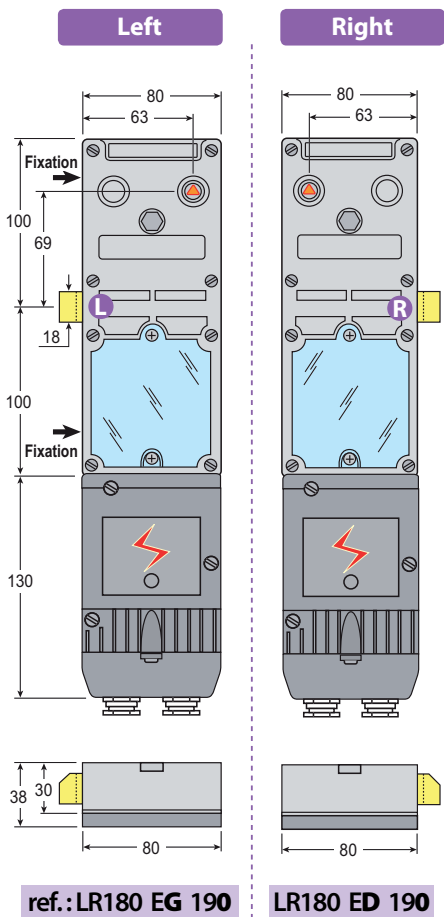


# LR180 E

# Electrical lock (24 or 48V ac)



**Nota :** The locks references LR180E\*190, LR180E\*990, LR180E\*193, etc. can be supply on waterproof version IP54.

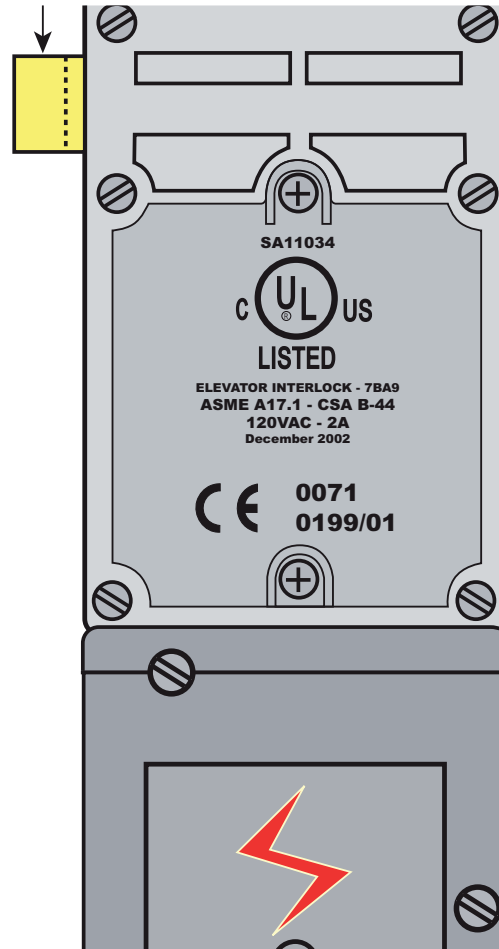
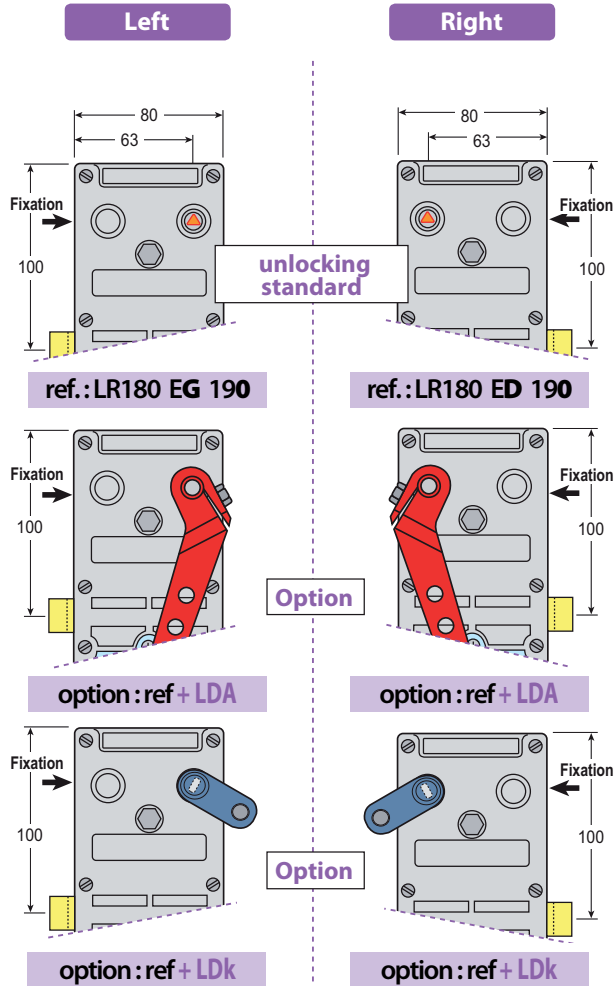


# Electrical lock (24 or 48V ac)

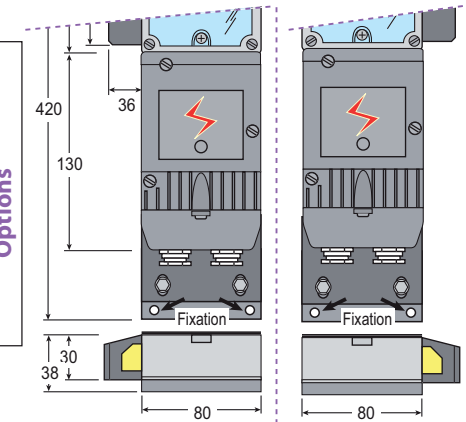
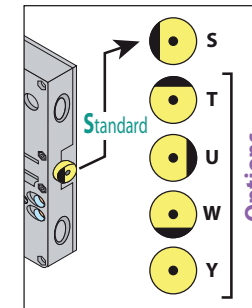
# LR180 E



Nota : The locks references LR180E\*190, LR180E\*990, LR180E\*193, etc. can be supply on waterproof version IP54.



### Flow-down devise



### Contact :

