

# RRD - Remote Racking Device

ABB SACE offers a dedicated device – RRD - to remotely perform Emax circuit-breaker racking in and racking out operations in order to increase the safety of the personnel. ABB is constantly committed to the safety of the personnel during every phase of use of its products, including installation and maintenance. During the racking-in operations of the circuit-breaker, the RRD prevents from any risk of injuries due to any possible electric arc.

## Arc flash

The electric arc can occur because of several reasons, such as human mistakes and bad connections. Accidents are quite unusual but when they happen their consequences may be really severe. The main risk of arc flash occurs when the cabinet door is open and the arc-proof characteristics of the switchgear are significantly decreased.

## ABB Solution

In order to maximize safety during the racking in of the CB moving part, ABB has developed the new Remote Racking Device - RRD - to operate Emax circuit-breakers without being in front of it.

The device works with the circuit-breaker open and with the springs discharged.

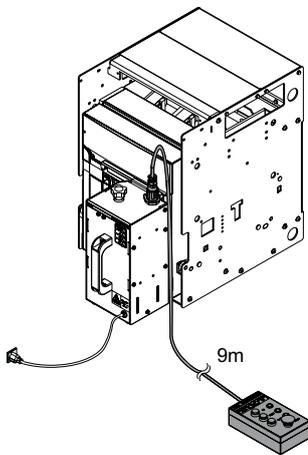
The RRD is supplied by the main grid. The remote control is connected to the main device with a thirty-foot cable which allows the racking in or out command from remote location.

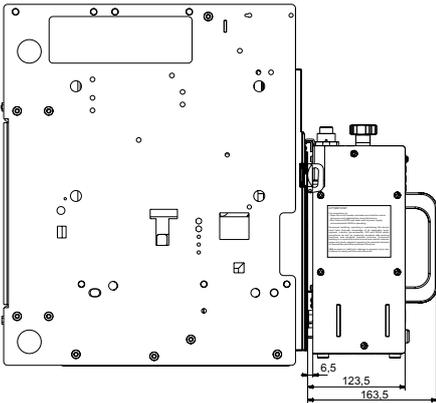
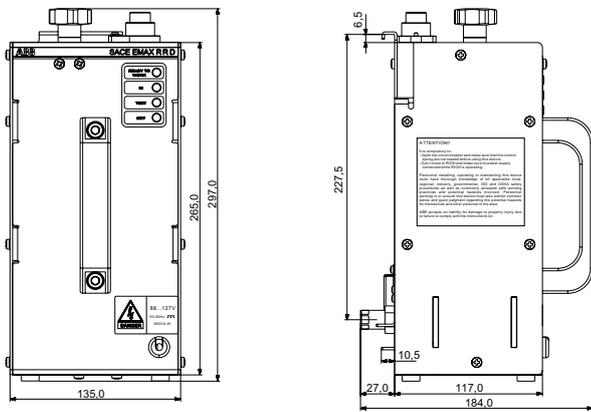
The cable length guarantees a far distance from the arc flash boundary for traditional LV switchgear.



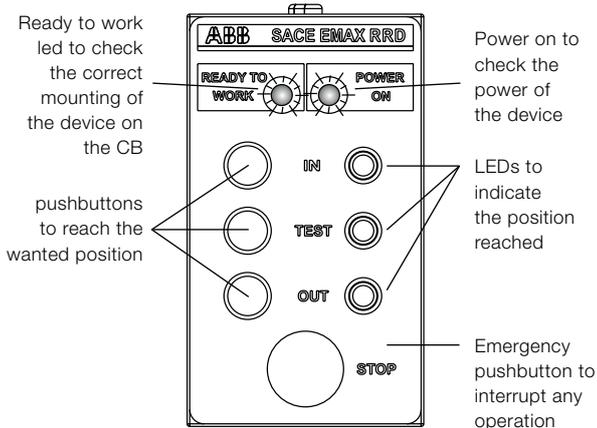
## Advantages

- Personnel safety increasing thanks to the long distance between the circuit breaker and the operator
- One single device for all the Emax circuit-breakers (Emax and New Emax – from the smallest E1 3 poles up to the biggest E6 full size)
- Easy installation thanks to the ergonomic handle to mount and to remove the device from the circuit-breaker
- All the positions can be reached: Connected/ Disconnected/ Test position
- Immediate visual check of the position reached thanks to the 3 Leds available both on the device and on the remote control
- Possibility to interrupt the operation in any moment thanks to the emergency pushbutton on the remote control
- Easy of storage thanks to the dedicated case:





### The remote control



### Electrical and technical data

Rated service voltage	110 V AC (-20%/+15%) 110 V DC (-20%/+15%)
Frequency	50-60 Hz
<b>Rated power</b>	120 W, 120 VA
Inrush power consumption	600 W, 600 VA
<b>Inrush time</b>	0,5 s
Working and storage temperature range	-10 °C ... +40 °C
Duty cycle	20 operations / hour
Minimum time out between operations	1 minute
Maximum operating distance	9 m / 30 ft
Weight	9 kg / 20 lb

The device is always equipped with a dedicated adapter kit to allow the complete mounting of the RRD device on up to 5 Emax circuit-breakers. The kit can be ordered even as a loose accessory to allow the installation on other 5 additional Emax. To power the circuit-breaker it is necessary to disinstall the RRD device.

### Ordering codes:

Product	1SDA...R1
RRD	069965
RRD adapter kit	069966

### A bit of theory: What is an electric arc?

The electric arc is a phenomenon that takes place as a consequence of a discharge. This occurs when the voltage between two points exceeds the insulating strength limit of the interposed gas. Gases, which are good insulating means under normal conditions, may become current conductors in consequence of a change in their chemical-physical properties due to a temperature rise or to other external factors. In case of abnormal conditions (e.g., doors open or closed, rack in or rack out) mentioned in NFPA 70E-2009, 130.7 (C) (9) FPN 2 (see doc 1SXU210018L0201), even in case of closed door, the arc flash effect cannot be easily analyzed. In order to improve personnel safety it is suggested to increase the distance between the door and personnel.

### ABB SACE

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