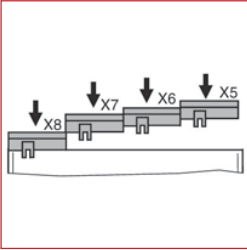


## OVERVIEW



## SCHRACK-INFO

### Calculation of the required number of auxiliary supply connectors

- Draw-out version: The auxiliary contacts automatically contact when the circuit-breaker is inserted in the guide frame. There are a range of connection models for connection of the auxiliary cable to the circuit breaker (see adjacent diagrams).
- Fixed version: The connection is carried out through a hand-held connector. The connectors are fitted with coded pins, which prevents any confusion with regard to the slots.

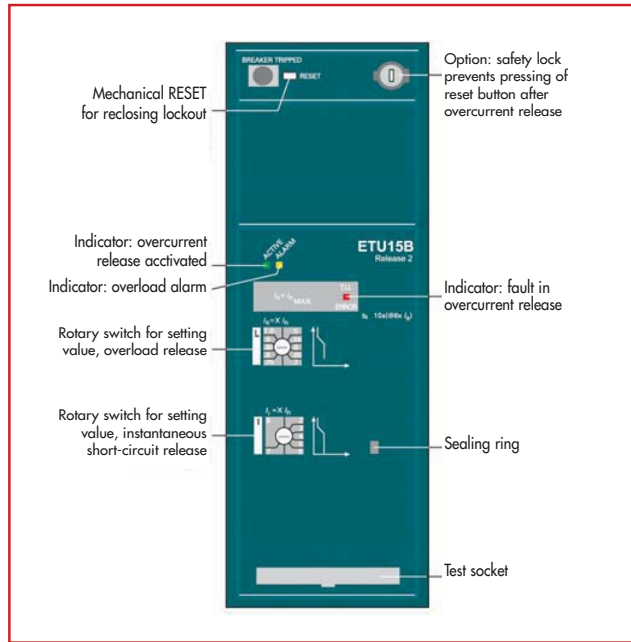
The number of auxiliary supply connectors required depends on:

- The operator type
- Overcurrent release with/without current transformer
- Type and quantity of the auxiliary releases
- The number of the auxiliary contacts
- Communication connection COM 15

Complete devices always come with all the required connectors

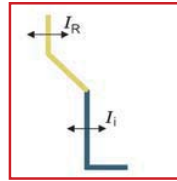
		No. of auxiliary supply connectors	Terminal
<b>a</b>	<b>First auxiliary supply connector X6 always required.</b>	1	X6
<b>b</b>	<b>Operator</b>		
b1	Manual operator with memory with mechanical call	0	
b2	Manual operator with stored-energy feature with electrical closing	0	X6
b3	Manual/motor operator with stored-energy feature with mechanical and electrical closing	+1	X5
<b>c</b>	<b>Overcurrent release</b>		
c1	Overcurrent release ETU15B, ETU25B, ETU27B	0	
c2	Overcurrent release ETU45B, ETU76B (internal Cubicle BUS)	+1	X8
	Ports for external current transformers for overload protection in the N conductor and earth-fault protection		
c3	Current transformer integral to N conductor (required for 3 pole circuit breakers when c2 is not selected)	+1	X8
c4	Current transformer installed in the neutral conductor (required if c2 or c3 not selected)	+1	X8
<b>d</b>	<b>Auxiliary release</b>		
d1	With/without 1st auxiliary release (Voltage release F1)	0	X6
d2	2nd auxiliary release (Voltage release F2, undervoltage release F3, delayable undervoltage release F4)	+1	X5
<b>e</b>	<b>Auxiliary switch blocks</b>		
e1	1st auxiliary switch block 2N/O + 2N/C	0	X6
e2	1. and 2nd auxiliary switch block 4N/O + 4N/C or 6N/O + 2N/C or 5N/O + 3N/C (required if b3 or d2 not selected)	+1	X5
<b>f</b>	<b>Communications module</b>		
f1	Without communications module COM15	0	
f2	With communications module COM15- occupies the entire terminal strip X7, making the following options no longer possible:	+1	X7
	• Tripped signal switch S24		
	• Stored-energy status indication S21		
	• Electrical On button S10		
	• Signaling switch on first and second auxiliary release S22 + S23		
<b>g</b>	<b>Optional signals/accessories</b>		
g1	Tripped signal switch S24 (only possible if f2 not selected)	+1	X7
g2	Stored-energy status S21 (only possible if f2 not selected, required if g1 not selected)	+1	X7
g3	Electrical ON button S10 (only possible if f2 not selected, required if g1 or g2 not selected)	+1	X7
g4	Signaling switch on first auxiliary release S22 (only possible if f2 not selected, required if g1, g2 or g3 not selected)	+1	X7
g5	Signaling switch on second auxiliary release S23 (only possible if f2 not selected, required if g1, g2 or g3 or g4 not selected)	+1	X7
g6	Ready-to-close signalling switch S20	0	X6
g7	Motor cut-off switch S12 (only possible if motor operator selected)	0	X5
g8	Remote reset magnet F7 (required if c2 not selected)	+1	X8
<b>h</b>	<b>Total number of auxiliary supply connectors</b>	(max. 4)	

## ELECTRONIC RELEASE ETU15B



### SCHRACK INFO

Basic protection for installations and systems without time-selective grading up to 3200A.



### TECHNICAL DATA

- Adjustable overload release with  $I^2t$  characteristic with fixed time delay  $t_R = 10$  seconds at  $6 \times I_n$
- Instantaneous short-circuit protection, adjustable between  $2...8 \times I_n$
- Overload indicator
- Setting of protective functions by means of rotary switch

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>ELECTRONIC RELEASE ETU15B – FACTORY INSTALLED</b>				
With protection function LI	ETU15B	9004840413816		MO890150



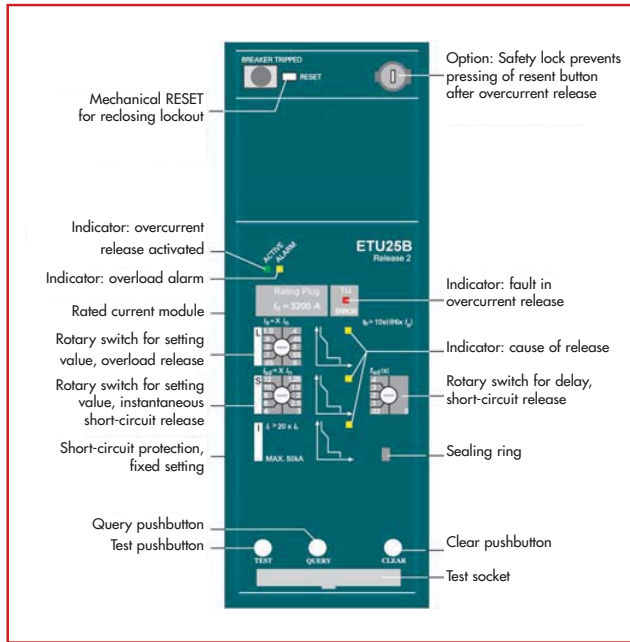
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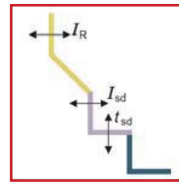


## ELECTRONIC RELEASE ETU25B



### SCHRACK INFO

Classic protection for installations, motors and systems using time-selective grading up to 6300A.



### TECHNICAL DATA

- Adjustable overload release with  $I^2t$  characteristic with time delay  $t_R = 10$  seconds at  $6 \cdot I_R$
- Short time-delay short-circuit protection, adjustable from  $1,25 \dots 12 \cdot I_n$  and
- Instantaneous short-circuit protection, fixed to  $20 \cdot I_n$ , max. 55kA
- Replaceable rating plug allows instant adaptability to the required system currents, thus ensuring overload protection of 100 A to 6300 A
- Overload indicator
- Display of cause of release through LED
- Option for testing the release
- Setting of protective functions by means of rotary switch

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>ELECTRONIC RELEASE ETU25B – FACTORY INSTALLED</b>				
With protection function LSI	ETU25B	9004840413823		MO890250

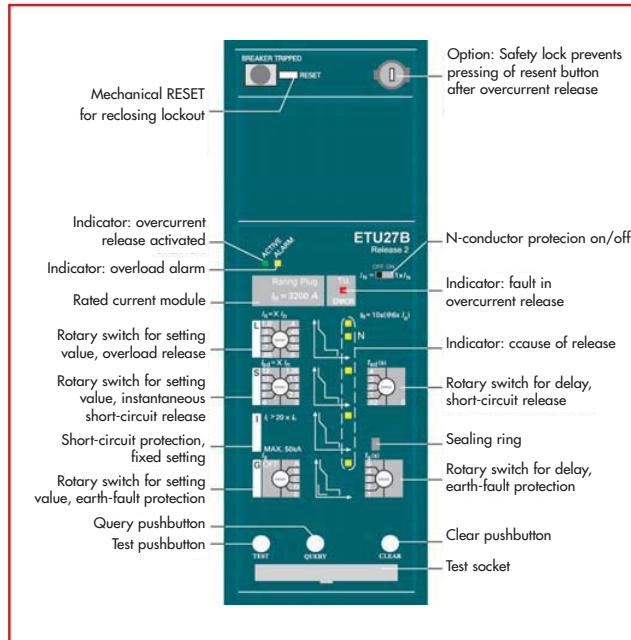


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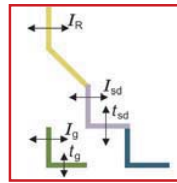
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## ELECTRONIC RELEASE ETU27B



### SCHRACK INFO

Classic protection for installations, motors and systems using time-selective grading up to 6300A.



### TECHNICAL DATA

- Adjustable overload release with  $I^2t$  characteristic with fixed time delay  $t_R = 10$  seconds at  $6 \times I_n$
- Short-time delay short-circuit protection, adjustable from  $1,25 \dots 12 \times I_n$
- Instantaneous short-circuit protection, fixed at  $20 \times I_n$ , max. 50 kA
- Replaceable rating plug allows instant adaptability to the required system currents, thus ensuring overload protection of 100 A to 6300 A
- Overload indicator
- Display of cause of release through LED
- Option for testing the release
- Connectable neutral conductor protection
- Permanently integrated earth-fault protection for the calculation of the earth-fault current through vectorial current summation
- Current transformer for N conductor has to be ordered separately
- Setting of protective functions by means of rotary switch

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>ELECTRONIC RELEASE ETU27B – FACTORY INSTALLED</b>				
With protection function LSING	ETU27B	upon request	upon request	MO890270

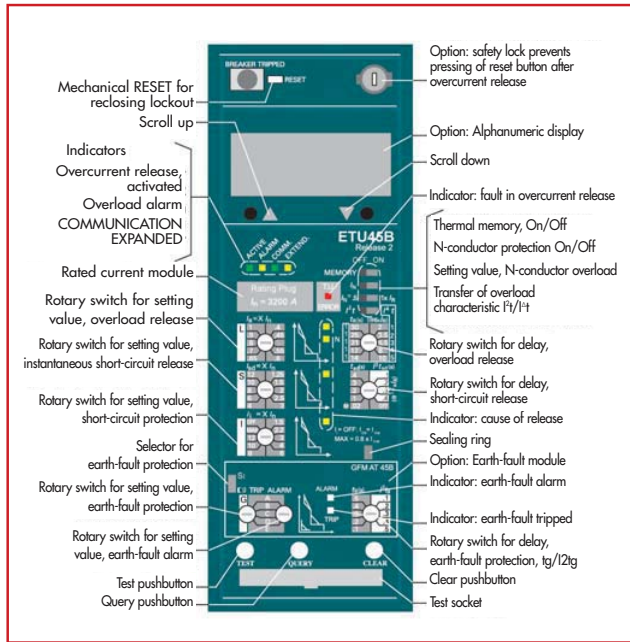


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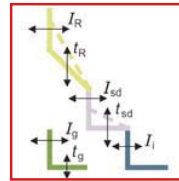
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## ELECTRONIC RELEASE ETU45B



## SCHRACK INFO

An inexpensive allrounder for intelligent installations and all sorts of industrial applications – “Internal Cubicle BUS”.



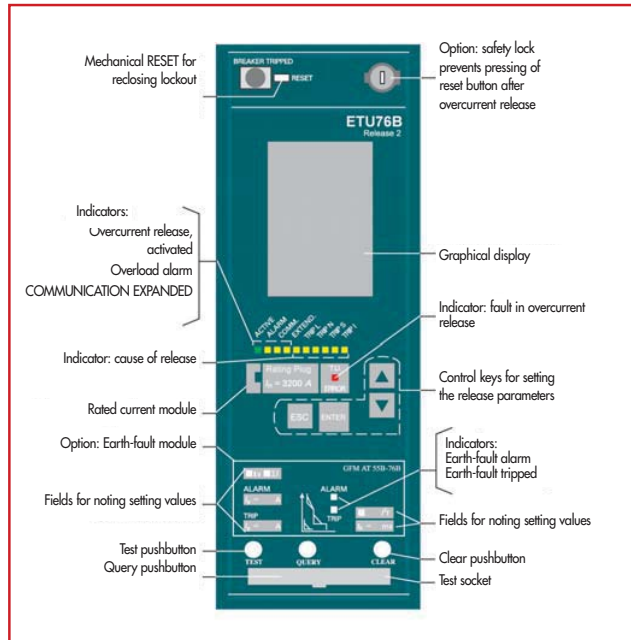
## TECHNICAL DATA

- Adjustable overload release with I<sup>2</sup>t characteristic with fixed time delay t<sub>R</sub> = 10 seconds at 6 x I<sub>R</sub>
- Short-time delay short-circuit protection, adjustable from 1,25 ... 12 x I<sub>n</sub>
- Instantaneous short-circuit protection, fixed at 20 x I<sub>n</sub>, max. 50 kA
- Replaceable rating plug allows instant adaptability to the required system currents, thus ensuring overload protection of 100 A to 6300 A
- Overload indicator
- Display of cause of release through LED
- Option for testing the release
- Adjustable time-lag class for overload protection
- Switch-selectable characteristic of the overload and short-time delay short-circuit range (current discriminate) for finer selectivity conditioning to downstream fuses or protective devices
- Thermal memory as restart protection in the case of tripped motor circuits
- Connectable and adjustable neutral conductor protection
- Modular earth-fault protection, with separately adjustable alarm and trip function
- Communication interface, metering function (Plus), connection of external modules as option or retrofit option
- Optional high-contrast display with viewing angle adjustment
- Setting of protective functions by means of rotary or slide switch

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>ELECTRONIC RELEASE ETU45B – FACTORY INSTALLED</b>				
With LSIN protective function, without display	ETU45B	9004840413847		MO890450
With LSIN protective function, with display	ETU45B	9004840466874		MO89D450
With LSING protective function				
incl. earth-fault protection unit, without display		upon request	upon request	MO89045G

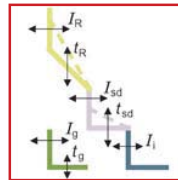
Order current converter for N conductor protection, and current converter for sensing ground fault current in earthed neutral conductor of transformer separately. The internal transformers for neutral conductors can be ordered by adding a “Z” and short order code “F23”.

## ELECTRONIC RELEASE ETU76B



### SCHRACK INFO

The multitasking system with graphical display for network analysis – “integrated Cubicle BUS”.



### TECHNICAL DATA

- Adjustable overload release with I<sup>2</sup>t characteristic with fixed time delay  $t_R = 10$  seconds at  $6 \times I_R$
- Short-time delay short-circuit protection, adjustable from  $1,25 \dots 12 \times I_n$
- Instantaneous short-circuit protection, fixed at  $20 \times I_n$ , max. 50 kA
- Replaceable rating plug allows instant adaptability to the required system currents, thus ensuring overload protection of 100 A to 6300 A
- Overload indicator
- Display of cause of release through LED
- Option for testing the release
- Adjustable time-lag class for overload protection
- Switch-selectable characteristic of the overload and short-time delay short-circuit range (current discriminate) for finer selectivity conditioning to downstream fuses or protective devices
- Thermal memory as restart protection in the case of tripped motor circuits
- Connectable and adjustable neutral conductor protection
- Modular earth-fault protection, with separately adjustable alarm and trip function
- Communication interface, metering function (Plus), connection of external modules as option or retrofit option
- Two protective parameter sets that can be stored separately in the release (switch selectable through external signal)
- Overload protection that can be switched off for use with modern operating mechanism technology
- Adjustable lag of the delayed short-circuit protection up to 4000 ms
- Neutral conductor protection adjustable to  $I_N = 2 \times I_n$
- Setting of protective functions by means of Breaker Data Adapter or through communication interface
- Graphical display of all parameters and event/curve characteristics
- Storage of events and causes of release for specific error analysis
- High contrast, background-lit graphical display with sleep mode

DESCRIPTION	TYPE	EAN CODE	AVAILABLE	ORDER NO.
<b>ELECTRONIC RELEASE ETU76B – FACTORY INSTALLED</b>				
With protection function LSIN	ETU76B	9004840413854		MO890760
With LSING protective function incl. earth-fault protection unit	ETU76B	upon request	upon request	MO89076G

Order current converter for N conductor protection, and current converter for sensing ground fault current in earthed neutral conductor of transformer separately. The internal transformers for neutral conductors can be ordered by adding a “Z” and short order code “F23”.

## RATING PLUG



### SCHRACK INFO

The Rating Plug is a replaceable module that enables users to reduce the rated device current for optimum adaptation to the system; e. g. during startup of a plant selection. The Rating Plug should be selected so that it roughly corresponds to the rated current of the system

RATED CURRENT I <sub>N</sub> (A)	ORDER NUMBER AS SPARE PART	ORDER NUMBER FACTORY INSTALLED
<b>FOR FRAME SIZE 1, 2</b>		
250	MO90AA51	MO800B02
315	MO90AA52	MO800B03
400	MO90AA53	MO800B04
500	MO90AA54	MO800B05
630	MO90AA55	MO800B06
800	MO90AA56	MO800B08
1000	MO90AA57	MO800B10
<b>FOR FRAME SIZE 1, 2, 3</b>		
1250	MO90AA58	MO800B12
1600	MO90AA61	MO800B16
<b>FOR FRAME SIZE 2, 3</b>		
2000	MO90AA62	MO800B20
2500	MO90AA63	MO800B25
3200	MO90AA64	MO800B32
4000	MO90AA65	MO800B40
<b>FOR FRAME SIZE 3</b>		
5000	MO90AA66	MO800B50
6300	MO90AA67	MO800B63



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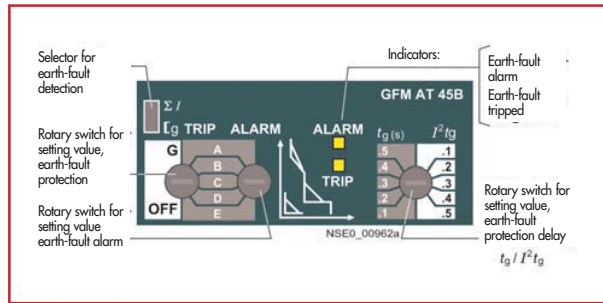
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## EARTH-FAULT PROTECTION MODULE

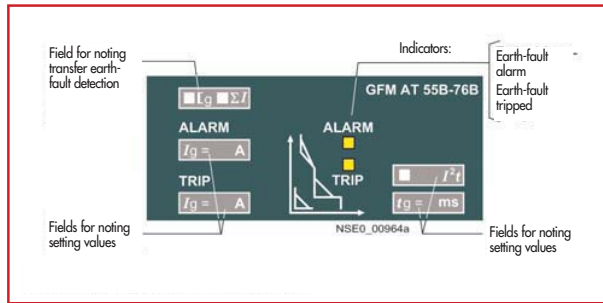
### SCHRACK-INFO

The earth-fault release "G" detects fault currents that flow above ground and present a fire hazard to the system. The adjustable time lag allows the selective staggering of consecutively arranged circuit-breakers. When setting the parameters at the over current release, a selection can be made between "report" (alarm) and "trigger" (trip) if the set current value is exceeded. The cause of the release is displayed on a LED when the query button is pressed. Protection release ETU27B is equipped with an earth-fault protection module, ETU45B, ETU55B and ETU76B can be retrofitted.

### EARTH-FAULT MODULE GFM AT 45B



### EARTH-FAULT MODULE GFM AT 55B-76B



DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
GFM AT 45B (for ETU 45B only) Alarm and trigger	MO90AT53	-
GFM AT 55B-76B (for ETU76B only) Alarm and trigger	MO90AT56	-

## DISPLAY



DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
4-line display for ETU45B	MO90AT81	-

## EMC FILTER

### SCHRACK INFO

Radio interference suppression filter for accentuating common-mode interferences (e. g. in IT networks, resulting from frequency converters). (Asymmetric) insertion loss in 40 kHz to 10 MHz > 40 dB range.

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
EMC Filter	MO90AK32	MO800F31



## TRANSFORMER FOR N CONDUCTOR

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
<b>Internal transformers for Neutral conductor – includes wiring kit</b>		
Frame size 1	MO90AA11	MO810F23
Frame size 2	MO90AA12	MO820F23
Frame size 3	MO90AA13	MO830F23
<b>External transformer for N conductor</b>		
Frame size 1	MO90AA21	–
Frame size 2	MO90AA22	–
Frame size 3	MO90AA23	–
<b>External transformer for N conductor with connection pieces</b>		
Frame size 1	MO90AA31	–
Frame size 2	MO90AA32	–
Frame size 3	MO90AA33	–

## AUTOMATIC RESET OF THE RECLOSING LOCKOUT

### SCHRACK INFO

If the ETU is released the circuit-breaker cannot be reclosed until the release has been either electrically or manually reset. With the option “automatic reset of the reclosing lockout”, the circuit-breaker is ready-to-close immediately after a release. The reset of the manual trip indicator is not contained in this option.

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
Lead sealable cover plate for ETU15B to ETU55B	MO90AT45	–
Lead-sealable cover plate for ETU76	MO90AT46	–
Automatic reset of the reclosing lock out	MO90AK21	MO800K01
Remote reset magnet – for mechanical trip display DC 24 V	MO90AK03	MO800K10
Remote reset magnet – for mechanical trip display AC 208-240 V/DC 220–250 V	MO900AK06	MO800K13
Retrofittable internal Cubicle BUS wiring for connection to Terminal X8 – (male connectors not included) for ETU45B to ETU76B	MO90AK30	–
Retrofittable internal wiring for connecting external N- and G transformers to Terminal X8 – (male connectors not included)	MO90AK31	–



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## LOCKING DEVICES

### SCHRACK INFO

#### "Safe OFF" switch-independent interlock device to prevent unauthorised closing

This special feature available for draw-out circuit breakers prevents closing independently of the switch, thus satisfying main switch conditions to EN 60204 (VDE 0113) - Mains disconnecting equipment. Unauthorised closing is not possible after replacement of the circuit breaker. The circuit breaker must be switched off to activate the interlock. The interlock device is blocked when the circuit breaker is switched on. The blocking is only effective when the key has been removed. The safety key can only be removed in the "OFF" position.

DESCRIPTION	ORDER NO. AS SPARE PART	ORDER NUMBER FACTORY INSTALLED
<b>Locking device against unauthorised closing, in operator panel</b>		
Mains equipment meets EN 60204 (VDE 0113) regulations for main switches.		
Installation kit FORTRESS or CASTELL	MO900BA31	–
Made by Ronis	MO90BA33	MO800S08
Made by KIRK-Key	MO90BA34	–
Made by Profalux	MO90BA35	MO800S09
Made by CES	MO90BA36	MO800S01
Made by IKON	MO90BA38	MO800S03
Installation kit for padlocks	MO90BA41	MO800S07

#### Locking device against unauthorised closing, for draw-out circuit breaker

Mains equipment meets EN 60204 (VDE 0113) regulations for main switches, comprising lock in cabinet door, effective in operating position, the function remains the same when replacing the switch.

Made by CES	MO90BA51	MO800R61
Made by IKON	MO90BA53	–
Made by KIRK key	MO90BA57	–
Made by Ronis	MO90BA58	MO800R68
Made by Profalux	MO90BA50	MO800R60

#### Locking device for operator lever using padlock

Locking device for operating lever (padlock not included)	MO90BA71	MO800S33
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#### Lock device to prevent movement of withdrawable circuit breaker – Safety lock for mounting on switch

Made by CES	MO90BA73	MO800S71
Made by IKON	MO90BA75	–
Made by Profalux	MO90BA76	MO800S75
Made by Ronis	MO90BA77	MO800S76

## SEALING CAP FOR MECHANICAL ON/OFF

DESCRIPTION	ORDER NO. AS SPARE PART	ORDER NUMBER FACTORY INSTALLED
<b>Protective covers for mechanical ON/OFF</b>		
each comprising 2 transparent covers for sealing or attachment of padlocks, Cover with 6,35 mm bore (for tool actuation), lock mount for safety lock for key operation		
Lock not included	MO90BA21	–
Made by CES	MO90BA22	–
Made by IKON	MO90BA24	–

## LOCKING MECHANISMS

### SCHRACK INFO

#### Locking device against moving if the cubicle door is open for withdrawable circuit-breakers

The crank handle is blocked if the cubicle door is open and cannot be withdrawn. It is not possible to move withdrawable circuit-breakers. The blocking is only effective if the crank handle is inserted.

#### Interlocking of cubicle door

The cubicle door cannot be opened if the

- fixed-mounted circuit-breaker is closed (transmission of the locking signal by means of Bowden wire) or
- if the withdrawable circuit-breaker is in connected position

DESCRIPTION	ORDER NO. AS SPARE PART	ORDER NUMBER FACTORY INSTALLED
<b>Prevents movement of draw-out circuit breaker in disconnect position, comprising Bowden cable and lock in cabinet door</b>		
Made by CES	MO90BA81	MO800R81
Made by IKON	MO90BA83	–
Made by Profalux	MO90BA85	MO800R85
Made by Ronis	MO90BA86	MO800R86
Installation kit for padlocks	MO90BA87	–
<b>Prevents opening of cabinet door in ON position (defeatable)</b>		
For permanent installation	MO90BB12	MO800R30
<b>Prevents opening of cabinet door in ON position (defeatable)</b>		
For guide frame	MO90BB13	MO800S30
<b>Prevents movement while cabinet door open</b>		
For guide frame	MO90BB15	MO800R50

## MECHANICAL INTERLOCK

### SCHRACK INFO

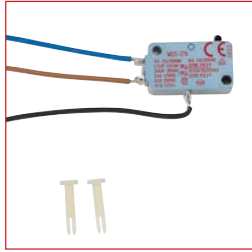
#### Mutual mechanical circuit-breaker interlocking

The module for mutual mechanical interlocking can be implemented for two or three circuit-breakers and is simple to adapt to the respective version. Fixed-mounted and withdrawable circuit-breakers are compatible and can be implemented together in a single system.

The circuit-breakers can be installed either next to one another or on top of one another, whereby the distance between circuit-breakers is determined only by the length of the Bowden wire.

DESCRIPTION	ORDER NO. AS SPARE PART	ORDER NUMBER FACTORY INSTALLED
<b>Mutual mechanical interlock, with Bowden cable 2000 mm (one required per circuit breaker)</b>		
Module for fixed-mounted circuit breakers	MO90BB21	MO800S55
Module for draw-out circuit breaker with frame. To be ordered separately.	MO90BB24	MO800R55
Module for guide frame. To be ordered separately.	MO90BB22	MO800R56
Module for draw-out circuit breaker. To be ordered separately.	MO90BB23	MO800R57
<b>Bowden cable</b>		
2000 mm	MO90BB45	–
3000 mm	MO90BB46	–
4500 mm	MO90BB47	–

## SIGNALISATION AND CONTROL



MO90AH01

### SCHRACK INFO

#### Ready-to-close signalling switch

MO circuit breaker come with a visual ready-to-close signal indicator as standard. The option is also available to indicate ready-to-close using a signalling switch. This signalling switch is included as standard for switches operated via a communications interface.

#### Signalling switch for auxiliary release

One signalling contact is available per auxiliary release for polling switch status of the auxiliary releases.

#### Tripped signal switch

In the event that the circuit breaker tripped due to an overload, short-circuit, earth-fault or extended protection function, this can be indicated with a tripped signal switch. This indicator switch is available as an option. This signalling switch is included as standard for circuit breakers operated via a communications interface.

#### Operating cycle counter

A 5-digit operating cycle counter is available in connection with the motor operator. The counter increments by "1" once the storage spring is fully charged.

#### "Electrical ON" button

Used for the electrical switch-on of the circuit breaker via a local, electrical "ON" or remote operation.

#### Sealable cap covers "Electrical ON" button

The "Electrical ON button" comes with a sealable cap as standard.

#### Motor cut off switch

Rotary switch for switching off (automatic charging) of motor operator.

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
Ready-to-close signalling switch	MO90AH01	MO800C22
Signalling switch, 1st auxiliary release	MO90AH02	MO800C26
Signalling switch, 2nd auxiliary release	MO90AH03	MO800C27
Tripped signal switch	MO90AH04	MO800K07
Mechanical operating cycle counter	MO90AH07	MO800C01
Stored energy status signalling switch	MO90AH08	MO800C20
Position indicator switch for guide frame, 1st block (3rd microswitch)	MO90AH11	MO800R15
Position indicator switch for guide frame, 2nd block (6th microswitch)	MO90AH12	MO800R16
Electical ON button (button+wiring) with sealable cap	MO90AJ02	MO800C11
Electical ON button (button+wiring) with CES installation kit	MO90AJ03	MO800C12
Motor cut-off switch, assembly on operator panel	MO90AJ06	MO800S25
EMERGENCY OFF button, mushroom button instead of mechanical OFF button	MO90BA72	MO800S24



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## TEST DEVICES

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
Manual test device for overcurrent releases ETU15B to ETU76B for testing overcurrent release functions	MO90AT31	-
Function test device for testing release characteristic curves for overcurrent releases ETU15B to ETU76B	MO90AT44	-

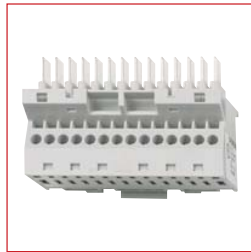
## CAPACITOR STORAGE DEVICE

### SCHRACK INFO

Rated control voltage must be the same as the rated control voltage of the voltage release unit. Also suitable for circuit breakers 3VL and 3WN.

RATED CONTROL VOLTAGE/ RATED CONTROL VOLTAGE	ORDER NO.	ORDER NUMBER
	AS REPLACEMENT PART	FACTORY INSTALLED
For voltage release AC 50/60 Hz 110-127/DC 110-115 V	MO90BA13	-
For voltage release AC 50/60 Hz 220-240/DC 220-250 V	MO90BA14	-

## AUX. PLUG CONNECTORS



MO90AB01



MO90AB03



MO90AB08

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
Make connectors for circuit breakers	MO90AB01	-
Auxiliary supply connector for circuit breaker or guide frame, Screw connection (SIGUT)	MO90AB03	-
Auxiliary supply connector for circuit breaker or guide frame, Screwless connection type (tension spring)	MO90AB04	-
Coding set for fixed installation (X5 to X8)	MO90AB07	-
Sliding contact module for for guide frame	MO90AB08	-
Dummy block for circuit breaker	MO90AB12	-



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## 1ST AUXILIARY RELEASE AFTER ETU



MO90AD01

### SCHRACK INFO

Up to two auxiliary release switches can be installed at the same time. The 1st release must always be a voltage release. 2nd auxiliary release see below

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
<b>Shunt release</b>		
DC 24 V – 100 % ED	MO90AD01	MO890B00
DC 30 V	MO90AD02	MO890C00
DC 48 V	MO90AD03	MO890D00
DC 60 V	MO90AD04	MO890E00
DC 110 V/AC 110 V	MO90AD05	MO890F00
DC 220 V/AC 230 V	MO90AD06	MO890G00

## 2ND AUXILIARY RELEASE AFTER ETU



MO90AD01

### SCHRACK INFO

#### Possible combinations:

1 shunt release or 1 undervoltage release  
or 2 shunt releases  
or 1 shunt release + 1 undervoltage release.

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
<b>Shunt release</b>		
DC 24 V – 100 % ED	MO90AD01	MO890B00
DC 30 V	MO90AD02	MO890C00
DC 48 V	MO90AD03	MO890D00
DC 60 V	MO90AD04	MO890E00
DC 110 V/AC 110 V	MO90AD05	MO890F00
DC 220 V/AC 230 V	MO90AD06	MO890G00

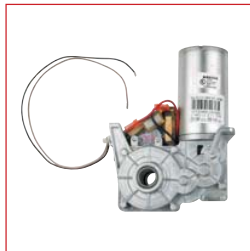
#### Undervoltage release – undelayed ( $\geq 80$ ms), short time-delayed ( $\leq 200$ ms)

DC 24 V	MO90AE01	MO8900J0
DC 30 V	MO90AE02	MO890K00
DC 48 V	MO90AE03	MO890L00
DC 60 V	MO90AE07	MO890U00
DC 110-125 V/AC 110-127 V	MO90AE04	MO890M00
DC 220-250 V/AC 208-240 V	MO90AE05	MO890N00
AC 380-415 V	MO90AE06	MO890P00

#### Undervoltage release – time-delayable 0,2 s to 3,2 sec

DC 48 V	MO90AE11	MO890Q00
DC 110-125 V/AC 110-127 V	MO90AE12	MO890R00
DC 220-250 V/AC 208-240 V	MO90AE13	MO890S00
AC 380-415 V	MO90AE14	MO890T00

## ■ MOTOR OPERATOR



MO90AF04

### ■ SCHRACK INFO

For automatic charging of the stored energy mechanism.

Is switched on when the stored energy mechanism is released and the control voltage is available.

Automatically switches off after charging. Manual actuation of the storage can function independently

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
Motor operator DC 220-250 V/AC 208-240 V	MO90AF04	MO894000
Motor operator DC 110-125 V/AC 110-127 V	MO90AF05	MO895000
Motor operator DC 24-30 V	MO90AF06	MO896000

## ■ AUXILIARY CONTACTS



MO90A401

### ■ SCHRACK INFO

- Always includes 2 N/O + 2 N/C

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
2 N/O + 2 N/C additionally	MO90AG01	MO890004
4 N/O additionally	-	MO890007
3 N/O + 1 N/C additionally	-	MO890008
2 N/O additionally	MO90AG02	-
1 N/O + 1 N/C additionally	MO90AG03	-



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## DOOR SEALING FRAME, COVER



MO800T40

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
Door sealing frame	MO90AP01	MO80T400
<b>Safety cover IP55 is not for use in combination with door sealing frame, removable cover is opened from both sides</b>	<b>MO90AP02</b>	-

## SHUTTER

### SCHRACK INFO

The cover strips of the shutter lock the laminated contacts of the guide frame if the withdrawable circuit-breaker is withdrawn so that they fulfil the function of a touch guard.

The cover strips can be manually opened with the strip lifter.

The cover strips can be fixed in different positions with padlocks and protected from unauthorized manipulation.

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
<b>Shutter 3 pole</b>		
Frame size 1	MO90AP04	MO810R21
Frame size 2	MO90AP06	MO820R21
Frame size 3	MO90AP07	MO830R21
<b>Shutter 4 pole</b>		
Frame size 1	MO90AP08	MO814R21
Frame size 2	MO90AP11	MO824R21
Frame size 3	MO90AP12	MO834R21



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## ARC CHUTE COVER/SHUTTER

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
<b>Arc chute cover</b> Parts set for guide frame, 3 pole		
Frame size 1	MO90AS32	MO810R20
Frame size 2	MO90AS36	MO820R20
Frame size 3	MO90AS38	MO830R20

<b>Arc chute cover</b> Parts set for guide frame, 4 pole		
Frame size 1	MO90AS42	MO814R10
Frame size 2	MO90AS44	MO824R10
Frame size 3	MO90AS46	MO834R10

## SUPPORT BRACKET

### SCHRACK INFO

For mounting fixed-installed circuit breakers vertically, for frame sizes 1 and 2 only (1 set = 2 pcs.).

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
Support bracket, frame size 1/2	MO90BB50	-

## CUBICLE BUS MODULES

DESCRIPTION	ORDER NO.	ORDER NUMBER
	AS SPARE PART	FACTORY INSTALLED
Digital output module with rotary coding switch, relay outputs	MO90AT26	-
Digital output module, configurable, relay outputs	MO90AT20	-
Digital input module	MO90AT27	-
Analogue output module	MO90AT23	-
ZSS module	MO90AT21	-



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## PARAMETERISATION SYSTEMS, COMMUNICATION

DESCRIPTION	ORDER NO.
<b>Breaker Data Adapter (BDA)</b>	
Parameterisation, operation, monitoring and diagnosis of SENTRON circuit breakers via the local interface: Breaker Data Adapter, connecting cable to SENTRON 3WL circuit breakers and to programming device (e.g. laptop); runs on Internet Explorer with JAVA2 VM 1.4.0-01	MO90AT28
<b>BDA Plus</b>	
Same as BDA, also with Ethernet interface for connection to Ethernet/Intranet/Internet	MO90AT33
<b>Connecting cable for BDA Plus</b>	
Connecting cable for connection of BDA Plus to Terminal X8 on SENTRON 3WL circuit breaker. Required when a COM 15 or other external CUBICLE BUS modules are not present, 2 m in length.	MO90BC21
<b>Switch ES Power parameterisation software</b>	
Parameterisation, operation, monitoring and diagnosis of SENTRON circuit breakers via the PROFIBUS DB; Runs on Windows95, Windows98, WindowsNT, Windows2000 and Windows XP Professional also requires additional PROFIBUS card, e.g. CP5613	MO90CC10

## ACCESSORIES FOR COMMUNICATION

DESCRIPTION	ORDER NO.
<b>Pre-assembled cables for Cubicle BUS modules</b>	
0,2 m long, for connection to SENTRON 3WL with COM15	MO90BC04
1 m long, for connection to SENTRON 3WL with COM15	MO90BC02
2 m long, for connection to SENTRON 3WL with COM15	MO90BC03
2 m long, for connection to SENTRON 3WL without COM15	MO90BC05
<b>Voltage transformer, 3-pole for SENTRON 3WL with Plus measurement function</b>	
230 V/100 V, Class 0,5	MO90BB70
380-630 V/100 V, Class 0,5	MO90BB68

## RETROFITTING AND REPLACEMENT PARTS

DESCRIPTION	ORDER NO.
<b>PROFIBUS retrofit kit</b>	
Retrofit kit for PROFIBUS communication includes COM15, BSS and cable kit for all MO circuit breakers of 3WL type with ETU45B, ETU55B and ETU76B releases	MO90AT12
COM15 PROFIBUS Module	MO90AT15
Breaker Status Sensor (BSS)	MO90AT16
Plus measurement function (requires voltage transformer)	MO90AT03