

# A line



### General Characteristics

The series of electronic analogic protective relays herebelow presented has been designed according to the most advanced technologies in order to obtain the highest reliability, accuracy and immunity to interference and is made with first choice components safely dimensioned and protected.

The application of severe testing and quality control procedures guarantees the reliability of the product.

### Relays Type

<b>PB../..</b>	Dual level current relay: 50/51
<b>UB0-A</b>	Earth fault current relay desensitised to the third harmonic: 51N
<b>BI20../..</b>	Two phase + earth fault overcurrent relay: 49, 51, 51N
<b>BI2C</b>	Dual level D.C. current relay: 49, 76
<b>BF3</b>	Three phase breaker failure relay: 50BF
<b>UB./.</b>	Under/Over-voltage relay: 27, 59, 45, 80
<b>UB./.</b>	Dual level voltage relay: 27, 59, 45, 80
<b>UB0</b>	Zero sequence voltage relay desensitised to the third harmonic: 64
<b>UB./60</b>	Voltage balance relay: 60
<b>UB0/100</b>	Relay for 100% generator stator earth fault protection: 64s
<b>UB1/2/C</b>	Battery positive/negative leakage to earth fault protection
<b>UB3/59-S</b>	Overvoltage relay for supervision of CTs' circuits
<b>RBW</b>	Directional overcurrent relay: 32, 67, 67N
<b>RRS</b>	Automatic load sharing control relay for generators: 95
<b>UB0/CR</b>	Rotor earth fault relay: 64R
<b>RB4</b>	Lock-out relay: 86
<b>RHS</b>	Rotating diode failure detection relay: 58
<b>RCA</b>	Trip circuit supervision relay: 74
<b>UB0/ATR</b>	High impedance differential relay: 87N(87G)

### The main features are the following:

- Measuring inputs supplied through internal adaptor transformers
- Multivoltage a.c. and d.c. autoranging power supply unit
- Draw-out modular execution on standard european size P.C. boards
- Fibreglass reinforced epoxy resin P.C. boards with tinplated copper tracks, solder mask special silicon humidity protection and screen printed component designators
- P.C. board connectors with golden plated pins rated 10A continuous and 200A 1sec

### Execution

"E" For flush mounting with back connection terminals, draw-out relay boards with automatic short circuiting of the current inputs. Transparent front cover. Protection degree IP54; accessories for surface mounting (E/I) are also available.

"E/R" Standard 19"3U (8 modules) or 6U (16 modules) rack with back connection terminals, draw-out relay boards with short circuiting of the current.



# Electronic

## Relays: A line

### Output Relays

Two versions are provided:

- Standard version: the output relays are deenergized on normal operating conditions and are energized on relay's tripping
- Positive protected version (on request): the output relays are energized on normal operating conditions, (i.e. with auxiliary supply on and input values at normal levels) and are deenergized on relay's tripping, failure of power supply, internal relay fault

### Signalization

- Green led: auxiliary power supply presence
- Red led: trip indication
- Yellow led: trip memorisation

### Control

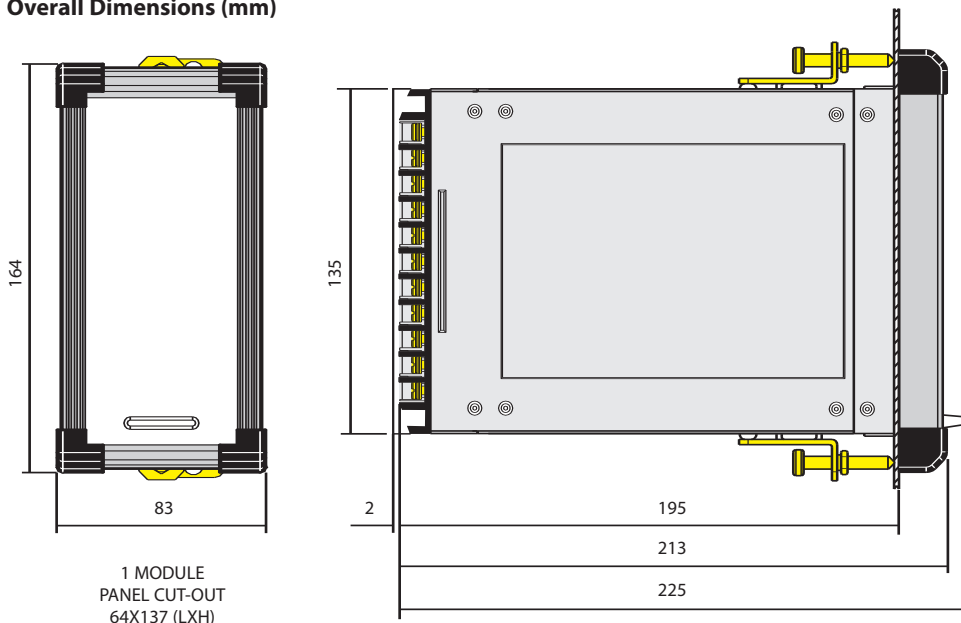
- Relay test with or without tripping of output contacts
- Automatic and/or local/remote reset of the output relays
- Local manual reset only for signal leds

### Blocking and Intertripping Circuits

On request are available:

- Blocking input (BI)
- Blocking output (BO)
- Time start output (TO)

### Overall Dimensions (mm)



**KNORR-BREMSE**



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