



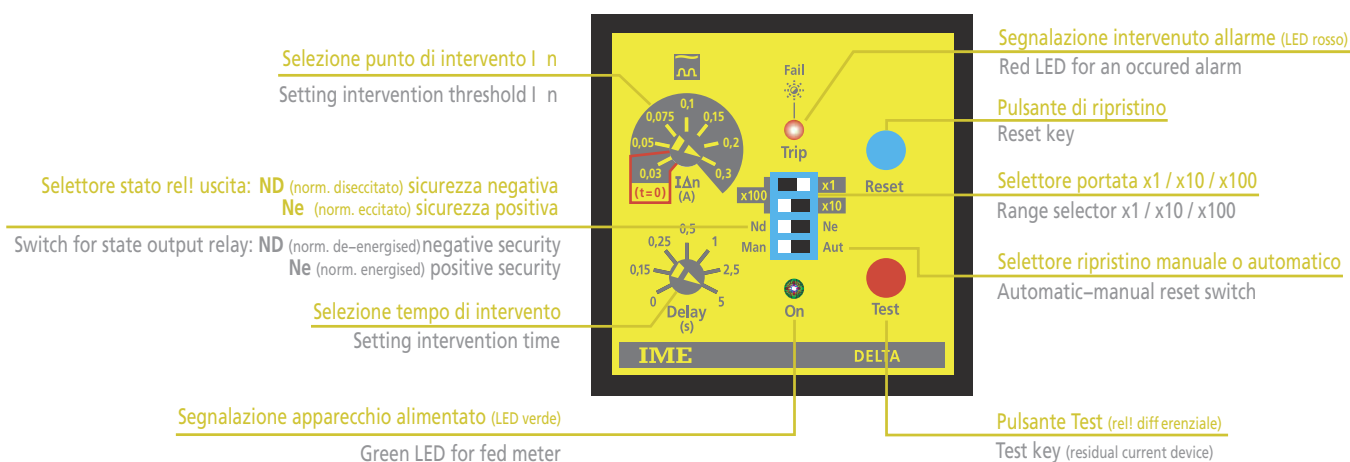
## Relè differenziale 48x48mm

Versione salvavita, con blocco elettrico  
( $t = 0$ ) a  $I_{\Delta n}$  30mA  
Punto di intervento selezionabile  
30mA...30A (19 portate)  
Sicurezza positiva o negativa  
selezionabile in campo  
Test automatico permanente  
Ripristino manuale o automatico  
(3 tentativi)

## Residual current device 48 x 48mm

Instantaneous  
( $t = 0$ ) at  $I_{\Delta n}$  30mA  
Selectable set point  
30mA...30A (19 ranges)  
Field-selectable negative or positive security  
(fail safe)  
Automatic permanent test  
Manual or automatic reset  
(3 restart attempts)

# Delta 48-S



| MODELLO MODEL                                                       |                                                                                                                  | 48-S    |
|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|---------|
| CODICE CODE                                                         |                                                                                                                  | RD1D... |
| NOTA TECNICA TECHNICAL NOTE                                         |                                                                                                                  | NT556   |
| PORTATE<br>RANGES                                                   | 19: 0,03...30A                                                                                                   | X       |
|                                                                     | 18: 0,5...30A                                                                                                    |         |
| BLOCCO ELETTRICO<br>INSTANTANEOUS                                   | t=0s a/at I $\Delta$ n 30mA                                                                                      | X       |
| FORMA D'ONDA<br>WAVEFORM                                            | Sinusoidale (tipo AC)<br>Sinusoidal (AC type)                                                                    | X       |
|                                                                     | Pulsante parzializzata con<br>componente continua (tipo A)<br>Chopped pulsating with<br>superimposed dc (A type) | X       |
| FILTRO COMPONENTI<br>ARMONICHE<br>FILTER FOR<br>HARMONICS           | Selezionabile<br>Selectable<br><br>Fisso<br>Fixed                                                                |         |
| NORMA DI RIFERIMENTO<br>ACCORDING TO                                | EN60947-2 IEC60947-2                                                                                             | X       |
| ALLARME<br>ALARM                                                    | 1 Uscita Relè<br>1 Relay Output                                                                                  | X       |
|                                                                     | 2 Uscite Relè<br>2 Relays Output                                                                                 |         |
|                                                                     | 1 Uscita + Preallarme<br>1 Output + Pre-alarm                                                                    |         |
| VISUALIZZAZIONE<br>I $\Delta$ n<br>DISPLAY                          | Barra LED<br>LED Bargraph                                                                                        |         |
|                                                                     | Display                                                                                                          |         |
| USCITA RELE'<br>RELAY OUTPUT                                        | SPDT                                                                                                             | X       |
|                                                                     | SPDT + SPST                                                                                                      |         |
|                                                                     | 2 SPDT                                                                                                           |         |
| SICUREZZA<br>positiva / negativa<br>SECURITY<br>positive / negative | Selezionabile<br>Selectable                                                                                      | X       |
| TEST                                                                | Locale<br>Local                                                                                                  | X       |
|                                                                     | Remoto<br>Remote                                                                                                 | ■       |
|                                                                     | Automatico<br>Automatic                                                                                          | X       |
| RIPRISTINO<br>RESET                                                 | Locale<br>Local                                                                                                  | X       |
|                                                                     | Remoto<br>Remote                                                                                                 | X       |
|                                                                     | Automatico<br>Automatic                                                                                          | X       |
| ALIMENTAZIONE<br>AUSILIARIA<br>AUXILIARY SUPPLY                     | 230Vca/ac                                                                                                        | X       |
|                                                                     | 24-48-115-240-400Vca/ac                                                                                          | X       |
|                                                                     | 20...150Vcc/dc                                                                                                   | X       |
|                                                                     | 10...36Vcc/dc                                                                                                    |         |
| DIMENSIONI<br>DIMENSIONS                                            | 2 Moduli 2 Module                                                                                                |         |
|                                                                     | 4 Moduli 4 Module                                                                                                |         |
|                                                                     | 48 x 48 mm                                                                                                       | X       |
|                                                                     | 72 x 72 mm                                                                                                       |         |
|                                                                     | 96 x 96 mm                                                                                                       |         |

| CODICI DI ORDINAZIONE<br>ORDERING CODE | AL. AUSILIARIA<br>AUX. SUPPLY   |
|----------------------------------------|---------------------------------|
| RD1DF1HB                               | 20...150V cc/dc - 40...60Vca/ac |
| RD1DF12B                               | 115V ca/ac                      |
| RD1DF13B                               | 230V ca/ac                      |
| RD1DF14B                               | 240V ca/ac                      |
| RD1DF15B                               | 400V ca/ac                      |
| RD1DF11B                               | 24V ca/ac                       |

## INGRESSO

**Inserzione:** linea bassa tensione, con trasformatore serie TD

**Forma d'onda IΔn:** sinusoidale (tipo AC) o pulsante parzializzata con componente continua (tipo A) in accordo con IEC/EN60947-2 Annesso M

**Frequenza nominale fn:** 50Hz

**Frequenza di funzionamento:** 47...63Hz

## PREDISPOSIZIONE

**Punto di intervento IΔn:** selezionabile con potenziometro a 7 posizioni,

3 gamme x1 - x10 - x100

**Portate IΔn:** vedi tabella

|     |      | 0,03  | 0,05  | 0,075 | 0,1   | 0,15  | 0,2   | 0,3   |
|-----|------|-------|-------|-------|-------|-------|-------|-------|
| IΔn | X1   | 30mA  | 50mA  | 75mA  | 100mA | 150mA | 200mA | 300mA |
|     | X10  | 300mA | 500mA | 750mA | 1A    | 1,5A  | 2A    | 3A    |
|     | X100 | 3A    | 5A    | 7,5A  | 10A   | 15A   | 20A   | 30A   |

**Corrente differenziale di non intervento:** 0,5 IΔn

**Tempo di intervento t:** selezionabile con potenziometro a 7 posizioni

**Campo regolazione t:** 0 - 0,15 - 0,25 - 0,5 - 1 - 2,5 - 5 secondi

| Soglia intervento (IΔn)<br>Set point (IΔn)                  | 0,03A | 0,05...30A |       |       |       |       |       |
|-------------------------------------------------------------|-------|------------|-------|-------|-------|-------|-------|
| Ritardo impostato t(s)<br>Selected delay t(s)               | 0s    | 0,15s      | 0,25s | 0,5s  | 1s    | 2,5s  | 5s    |
| Tempo non intervento @ 2IΔn<br>Non-operating time at @ 2IΔn |       | 0,15s      | 0,25s | 0,5s  | 1s    | 2,5s  | 5s    |
| Max. ritardo @ 5IΔn<br>Max. delay @ 5IΔn                    | 0,03s | 0,24s      | 0,35s | 0,63s | 1,20s | 2,80s | 5,50s |

Selezionando la soglia di intervento nella posizione 0,03 viene automaticamente escluso il ritardo intervento, indipendentemente dalla posizione del moltiplicatore di portata (x1/10/100).

## INPUT

**Connection:** low voltage lines, with series TD transformer

**Waveform IΔn:** sinusoidal (type AC) or chopped pulsating with superimposed d.c. (type A) according to IEC/EN60947-2 Annex M

**Rated frequency fn:** 50Hz

**Working frequency:** 47...63Hz

## SET UP

**Current set point IΔn:** selectable by 7-position potentiometer,

3 ranges x1 - x10 - x100

**Ranges IΔn:** see table

**Non-operating residual current :** 0,5 IΔn

**Intervention time t:** selectable by 7 position potentiometer

**Adjustable range t:** 0 - 0,15 - 0,25 - 0,5 - 1 - 2,5 - 5 seconds

## SEGNALAZIONE

**Strumento alimentato:** LED verde "ON"

**Intervento allarme:** LED rosso "TRIP" + commutazione relè

**Interruzione collegamenti relè-toroide:** lampeggio LED rosso "TRIP" + commutazione relè "TRIP"

## SIGNALING

**Power ON:** green LED "ON"

**Alarm intervention:** red LED "TRIP" + relay switching

**Ring current transformer-relay connection failure:** red LED "TRIP" blinking + relay switching

## CONTROLLO

**Test manuale:** verifica l'efficienza del relè differenziale

**Locale:** pulsante frontale

**Remoto:** chiusura contatto esterno (Non realizzabile con aux cc e con Uaux 48Vca)

**Test automatico permanente:** verifica la continuità del collegamento relè differenziale - toroide

## CONTROL

**Manual test:** it verifies the residual current relay perfect working

**Local:** front key

**Remote:** by external contact closing (Not available with dc supply and Uaux 48Vca)

**Automatic continuous test:** it verifies the integrity of the connection between relay and ring core

## ALLARME

**Memorizzazione intervento ':** LED rosso "TRIP" + autoritenuta relè

'esclusa con reset automatico

**Ripristino (reset):** manuale o automatico, selezionabile tramite dip switch

**Manuale locale:** pulsante frontale

**Manuale remoto:** chiusura contatto esterno

**Automatico:** 3 tentativi di ripristino (1 ogni 60 secondi)

**Ripristino inibito con corrente differenziale persistente:** > 50% IΔn

## ALARM

**TRIP state memorization ':** red LED "TRIP" + relay self-retaining

'excluded with automatic reset

**Reset:** manual or automatic, selectable by dip switch

**Local manual:** front key

**Remote manual:** external contact closing

**Automatic :** 3 restart attempts (1 each 60 seconds)

**Inhibited reset with persistent residual current:** > 50% IΔn

| USCITA                                                                                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Relè: 1 contatto di scambio SPDT                                                                                                                               |
| Portata contatti: 5A 250Vca cosφ 1 - 3A 250Vca cosφ 0,4 - 5A 30Vcc                                                                                             |
| Sicurezza negativa/condizionata (relè normalmente diseccitato) oppure<br>positiva/incondizionata (relè normalmente eccitato): selezionabile tramite dip switch |

| ALIMENTAZIONE AUSILIARIA                                                   |
|----------------------------------------------------------------------------|
| Valore nominale Uaux: 24V - 48V - 115V - 230V - 240V - 400V                |
| Variazione ammessa: 0,85...1,1Uaux - 40...60V (Uaux 48V)                   |
| Frequenza nominale: 50Hz                                                   |
| Variazione ammessa: 47...63Hz                                              |
| Autoconsumo: ≤ 2,5VA                                                       |
| Valore nominale Uaux: 20...150Vcc                                          |
| Protezione contro l'inversione di polarità                                 |
| Autoconsumo: ≤ 2,5W                                                        |
| Insensibilità ai buchi di tensione con durata fino a 300ms (Uaux nominale) |

| ISOLAMENTO                                                            | (IEC/EN 60947-1) |
|-----------------------------------------------------------------------|------------------|
| Categoria di installazione: III                                       |                  |
| Grado di inquinamento: 2                                              |                  |
| Tensione di riferimento per l'isolamento: 450V                        |                  |
| Prova di tensione a impulso 5kV 1,2/50ms 0,5J                         |                  |
| Circuiti considerati: ingresso, uscita relè, alimentazione ausiliaria |                  |
| Prova a tensione alternata 2,5kV valore efficace 50Hz/1min            |                  |
| Circuiti considerati: ingresso, uscita relè, alimentazione ausiliaria |                  |
| Prova a tensione alternata 4kV valore efficace 50Hz/1min              |                  |
| Circuiti considerati: tutti i circuiti e massa                        |                  |

| PROVE DI COMPATIBILITA' ELETTROMAGNETICA         |
|--------------------------------------------------|
| Prove di emissione in accordo con IEC/EN 60947-2 |
| Prove di immunità in accordo con IEC/EN 60947-2  |

| CONDIZIONI AMBIENTALI                                    |
|----------------------------------------------------------|
| Temperatura di impiego: -5...50°C                        |
| Temperatura limite di funzionamento: -10...55°C          |
| Temperatura di magazzinaggio: -40...70°C                 |
| Umidità relativa (IEC60755): 50% (valore massimo a 40°C) |
| Adatto all'utilizzo in clima tropicale                   |
| Massima potenza dissipata <sup>1</sup> : ≤ 2W            |
| <sup>1</sup> Per il dimensionamento termico dei quadri   |

| CUSTODIA                                                         |
|------------------------------------------------------------------|
| Custodia: incasso (foratura pannello 45x45 mm)                   |
| Profondità: 102 mm                                               |
| Frontale: 48x48 mm (52x52 mm con opzione IP54)                   |
| Conessioni: faston 6,3 x 0,8 mm                                  |
| Materiale custodia: policarbonato autoestinguente                |
| Grado di protezione (EN/IEC 60529): IP40 frontale, IP20 morsetti |
| Opzione: kit per protezione frontale IP54                        |
| Peso: 200 grammi                                                 |

| OUTPUT                                                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------|
| Relay: 1 SPDT contact                                                                                                               |
| Contact range: 5A 250Vac cosφ 1 - 3A 250Vac cosφ 0,4 - 5A 30Vdc                                                                     |
| Negative security (normally de-energised relay) or positive security fail safe (normally energised relay): selectable by dip switch |

| AUXILIARY SUPPLY                                                          |
|---------------------------------------------------------------------------|
| Rated value Uaux: 24V - 48V - 115V - 230V - 240V - 400V                   |
| Tolerance: 0,85...1,1Uaux - 40...60V (Uaux 48V)                           |
| Rated frequency: 50Hz                                                     |
| Tolerance: 47...63Hz                                                      |
| Rated burden: ≤ 2,5VA                                                     |
| Rated value Uaux: 20...150Vdc                                             |
| Protected against incorrect polarity                                      |
| Rated burden: ≤ 2,5W                                                      |
| Immunity to short interruption of supply voltage up to 300ms (Rated Uaux) |

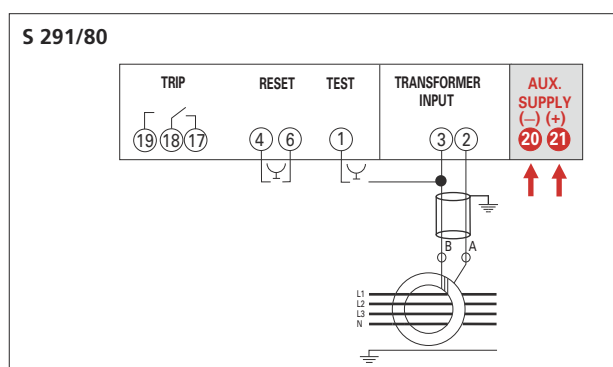
| INSULATION                                                 | (IEC/EN 60947-1) |
|------------------------------------------------------------|------------------|
| Installation category: III                                 |                  |
| Pollution degree: 2                                        |                  |
| Insulation reference voltage: 450V                         |                  |
| Impulse voltage test 5kV 1,2/50µs 0,5J                     |                  |
| Considered circuits: input, relay output, auxiliary supply |                  |
| A.C. voltage test 2,5kV r.m.s. 50Hz/1 min                  |                  |
| Considered circuits: input, relay output, auxiliary supply |                  |
| A.C. voltage test 4kV r.m.s. 50Hz/1 min                    |                  |
| Considered circuits: all circuits and earth                |                  |

| TESTS FOR ELECTROMAGNETIC COMPATIBILITY    |
|--------------------------------------------|
| Emission tests according to IEC/EN 60947-2 |
| Immunity tests according to IEC/EN 60947-2 |

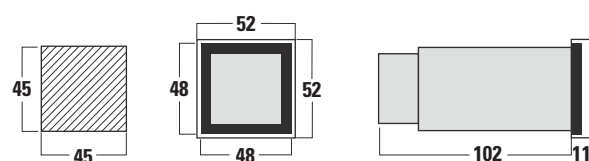
| ENVIRONMENTAL CONDITIONS                                  |
|-----------------------------------------------------------|
| Nominal temperature range: -5...50°C                      |
| Limit temperature range: -10...55°C                       |
| Limit temperature range for storage: -40...70°C           |
| Relative humidity (IEC60755): 50% (highest value at 40°C) |
| Suitable for tropical climates                            |
| Max. power dissipation <sup>1</sup> : ≤ 2W                |
| <sup>1</sup> For switchboard thermal calculation          |

| HOUSING                                                            |
|--------------------------------------------------------------------|
| Housing: flush mounting ( panel cutout 45x45 mm)                   |
| Depth: 102 mm                                                      |
| Front frame: 48x48 mm (52x52 con opzione IP54)                     |
| Connections: fast-ons 6,3 x 0,8 mm.                                |
| Housing material: self-extinguishing polycarbonate                 |
| Protection degree (EN/IEC 60529): IP40 front frame, IP20 terminals |
| Option: kit for IP54 front frame protection                        |
| Weight: 200 grams                                                  |

## SCHEMA D'INSERZIONE WIRING DIAGRAM



## DIMENSIONI DIMENSIONS



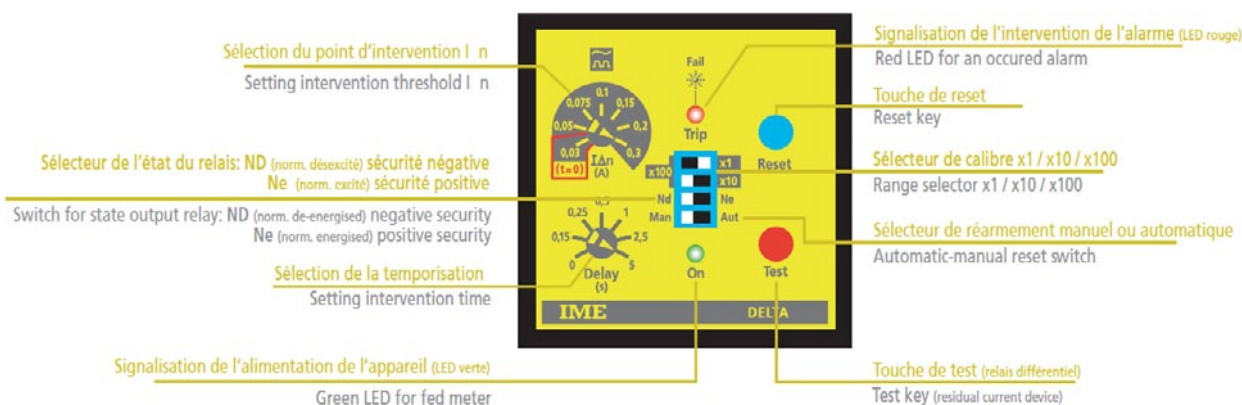
## Relais différentiel 48 x 48mm

Déclenchement instantané  
( $t = 0$ ) à  $I_{\Delta n}$  30mA  
Point d'intervention sélectionnable  
30mA...30A (19 calibres)  
Sécurité positive et négative  
sélectionnable par l'utilisateur  
Test automatique permanent  
Reset automatique ou manuel  
(3 essais)

## Residual current device 48 x 48mm

*Instantaneous*  
( $t = 0$ ) at  $I_{\Delta n}$  30mA  
*Selectable set point*  
30mA...30A (19 ranges)  
*Field-selectable negative or positive security*  
(fail safe)  
*Automatic permanent test*  
*Manual or automatic reset*  
(3 restart attempts)

# Delta RD1D



| MODEL MODEL                                         |                                                                                                                    | RD1D       |
|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|------------|
| REFERENCE CODE                                      |                                                                                                                    | 4021 20... |
| NOTICE TECHNIQUE                                    |                                                                                                                    | NT556      |
| CALIBRES<br>RANGES                                  | 19: 0,03...30A                                                                                                     | X          |
|                                                     | 18: 0,5...30A                                                                                                      |            |
| DECLenchement INSTANTANE<br>INSTANTANEOUS           | t=0s à/at IΔn 30mA                                                                                                 | X          |
| FORME D'ONDE<br>WAVEFORM                            | Sinusoïdale (type AC)<br><i>Sinusoidal (AC type)</i>                                                               | X          |
|                                                     | Pulsante hachée avec composante continue<br>(type A)<br><i>Chopped pulsating with<br/>superimposed dc (A type)</i> | X          |
| FILTRE POUR LES HARMONIQUES<br>FILTER FOR HARMONICS | Sélectionnable<br><i>Selectable</i>                                                                                |            |
|                                                     | Fixe<br><i>Fixed</i>                                                                                               |            |
| NORME DE REFERENCE<br>ACCORDING TO                  | EN60947-2 IEC60947-2                                                                                               | X          |
| ALARME                                              | 1 sortie relais<br><i>1 relay output</i>                                                                           | X          |
|                                                     | 2 sortie relais<br><i>2 relay output</i>                                                                           |            |
|                                                     | 1 sortie + préalarme<br><i>1 relay + Pre-alarm</i>                                                                 |            |
| AFFICHAGE<br>IΔn<br>DISPLAY                         | Barre LED<br><i>LED Bargraph</i>                                                                                   |            |
|                                                     | Affichage<br><i>Display</i>                                                                                        |            |
| SORTIE RELAIS <sup>1</sup><br>RELAY OUTPUT          | SPDT                                                                                                               | X          |
|                                                     | SPDT + SPST                                                                                                        |            |
|                                                     | 2 SPDT                                                                                                             |            |
| SECURITE<br>positive / negative<br>SECURITY         | Sélectionnable<br><i>Selectable</i>                                                                                | X          |
| TEST                                                | Local                                                                                                              | X          |
|                                                     | Déporté<br><i>Remote</i>                                                                                           | ■          |
|                                                     | Automatique<br><i>Automatic</i>                                                                                    | X          |
| RESET                                               | Local<br><i>Local</i>                                                                                              | X          |
|                                                     | Déporté<br><i>Remote</i>                                                                                           | X          |
|                                                     | Automatique<br><i>Automatic</i>                                                                                    | X          |
| ALIMENTATION AUXILIAIRE<br>AUXILIARY SUPPLY         | 230Vac                                                                                                             | X          |
|                                                     | 24-48-115-240-400Vac                                                                                               | X          |
|                                                     | 20...150Vcc/dc                                                                                                     | X          |
|                                                     | 10...36Vcc/dc                                                                                                      |            |
| DIMENSIONS<br>AUXILIARY SUPPLY                      | 2 Modules                                                                                                          |            |
|                                                     | 4 Modules                                                                                                          |            |
|                                                     | 48 x 48mm                                                                                                          | X          |
|                                                     | 72 x 72mm                                                                                                          |            |
|                                                     | 96 x 96mm                                                                                                          |            |

■ Non réalisable avec alim. aux. 20...150Vcc-48Vca / Not available with aux.supply 20...150Vcc-48Vca

| REFERENCES<br>ORDERING CODE                                                       | ALIM. AUX.<br>AUX. SUPPLY |
|-----------------------------------------------------------------------------------|---------------------------|
| 4021 2036                                                                         | 20...150Vdc - 40...60Vac  |
| 4021 2029                                                                         | 115Vac                    |
| 4021 2030                                                                         | 230Vac                    |
| 4021 2031                                                                         | 240Vac                    |
| 4021 2035                                                                         | 400Vac                    |
|  | 24Vac                     |

ENTREE

**Raccordement :** réseaux basse tension, avec transformateur série DEL..N

**Forme d'onde IΔn:** sinusoïdale (type AC) ou pulsée découpée avec composantes continues (type A) selon IEC/EN 60947-2 Annexe M

**Fréquence nominale nominale fn:** 50Hz

**Fréquence de fonctionnement:** 47...63Hz

REGLAGES

**Point d'intervention IΔn:** sélectionnable par dip-switch à 7 positions, 3 gammes x1 - x10 - x100

**Portate IΔn:** voir tableau

|     |      | 0,03  | 0,05  | 0,075 | 0,1   | 0,15  | 0,2   | 0,3   |
|-----|------|-------|-------|-------|-------|-------|-------|-------|
| IΔn | X1   | 30mA  | 50mA  | 75mA  | 100mA | 150mA | 200mA | 300mA |
|     | X10  | 300mA | 500mA | 750mA | 1A    | 1,5A  | 2A    | 3A    |
|     | X100 | 3A    | 5A    | 7,5A  | 10A   | 15A   | 20A   | 30A   |

**Courant différentiel de non fonctionnement:** 0,5 IΔn

**Temporisation t:** sélectionnable par dip-switch à 7 positions

**Choix des temporisations t:** 0 - 0,15 - 0,25 - 0,5 - 1 - 2,5 - 5 secondes

| Point d'intervention (IΔn)<br>Set point (IΔn)                 | 0,03A | 0,05...30A |       |       |       |       |       |
|---------------------------------------------------------------|-------|------------|-------|-------|-------|-------|-------|
| Choix des temporisations t(s)<br>Selected delay t(s)          | 0s    | 0,15s      | 0,25s | 0,5s  | 1s    | 2,5s  | 5s    |
| Durée de déclenchement @ 2IΔn<br>Non-operating time at @ 2IΔn |       | 0,15s      | 0,25s | 0,5s  | 1s    | 2,5s  | 5s    |
| Durée de dédenchement max. @ 5IΔn<br>Max. delay @ 5IΔn        | 0,03s | 0,24s      | 0,35s | 0,63s | 1,20s | 2,80s | 5,50s |

En sélectionnant le seuil d'intervention sur la position 0,03, le délai d'intervention est automatiquement exclu, indépendamment de la position du sélecteur de calibre (x1/10/100).

SIGNALISATION

**Instrument alimenté:** LED verte "ON"

**Déclenchement de l'alarme:** LED rouge "TRIP" + commutation relais

**Interruption raccordement relais- tore:** LED rouge "TRIP" + commutation relais

CONTROLE

**Test manuel:** permet de vérifier le bon fonctionnement du dispositif différentiel, Local : touche en face avant

**Déporté:** par contact fermé extérieur (non dispo. avec alim.dc et Uaux 48Vac)

**Test automatique permanent:** permet de vérifier l'efficacité du dispositif (relais différentiel-tore)

ALARME

**Mémorisation du déclenchement:** LED rouge "TRIP" et automaintien du relais 'sauf avec le réarmement automatique

**Réarmement (reset):** manuel ou automatique, sélectionnable par dip switch

**Réarmement manuel local:** touche en face avant

**Réarmement manuel déporté :** par contact fermé externe

**Réarmement automatique :** 3 essais (1 toutes les 60 secondes)

**Inhibition du réarmement en cas de défaut persistant:** > 50% IΔn

INPUT

**Connection:** low voltage lines, with series TD transformer

**Waveform IΔn:** sinusoidal (type AC) or chopped pulsating with superimposed d.c. (type A) according to IEC/EN60947-2 Annex M

**Rated frequency fn:** 50Hz

**Working frequency:** 47...63Hz

SET UP

**Current set point IΔn:** selectable by 7-position potentiometer, 3 ranges x1 - x10 - x100

**Ranges IΔn:** see table

**Non-operating residual current :** 0,5 IΔn

**Intervention time t:** selectable by 7 position potentiometer

**Adjustable range t:** 0 - 0,15 - 0,25 - 0,5 - 1 - 2,5 - 5 seconds

Selecting the intervention threshold on position 0,03 the intervention delay is automatically excluded, independently of position of range selector (x1/10/100).

SIGNALING

**Power ON:** green LED "ON"

**Alarm intervention:** red LED "TRIP" + relay switching

**Ring current transformer-relay connection failure:** red LED "TRIP" blinking + relay switching

CONTROL

**Manual test:** it verifies the residual current relay perfect working

**Local:** front key

**Remote:** by external contact closing (Not available with dc supply and Uaux 48Vac)

**Automatic continuous test:** it verifies the integrity of the connection between relay and ring core

ALARM

**TRIP state memorization ':** red LED "TRIP" + relay self-retaining 'excluded with automatic reset

**Reset:** manual or automatic, selectable by dip switch

**Local manual:** front key

**Remote manual:** external contact closing

**Automatic :** 3 restart attempts (1 each 60 seconds)

**Inhibited reset with persistent residual current:** > 50% IΔn

## SORTIE

Relais: 1 contact inverseur SPDT

Pouvoir de coupure: 5A 250Vac cosφ 1 - 3A 250Vac cosφ 0,4 - 5A 30Vdc

Sécurité négative (relais normalement désexcité) ou positive (relais normalement excité): sélectionnable par dip-switch

## ALIMENTATION AUXILIAIRE

Valeur nominale Uaux : 24V - 48V - 115V - 230V - 240V - 400V

Variation admissible: 0,85...1,1Uaux - 40...60V (Uaux 48V)

Fréquence nominale: 50Hz

Variation admissible:: 47...63Hz

Autoconsommation: ≤ 2,5VA

Valeur nominale Uaux: 20...150Vcc

Protection contre l'inversion de polarité

Autoconsommation : ≤ 2,5W

Insensibilité aux micro-coupures d'alim. de tension jusqu'à 300ms (Uaux nominale)

## ISOLEMENT

(IEC 60947-1)

Catégorie de l'installation: III

Degré de pollution: 2

Tension nominale d'isolement: 450V

Tension d'essai 5kV impulsion normalisée 1,2/50µs 0,5J

Circuits concernés: entrée, sortie relais, alimentation auxiliaire

Tension d'essai 2,5kV valeur efficace 50Hz/1 min

Circuits concernés: entrée, sortie relais, alimentation auxiliaire

Tension d'essai 4kV valeur efficace 50Hz/1 min

Circuits concernés: tous les circuits et la masse

## TEST DE COMPATIBILITE ELECTROMAGNETIQUE

Essai d'émission selon la norme IEN/EC 60947-2

Essai d'immunité selon la norme IEN/EC 60947-2

## CONDITION D'UTILISATION

Température de référence: -5...50°C

Température limite de fonctionnement: -10...55°C

Température de stockage: -40...70°C

Humidité relative (EN 60755): 50% (valeur maximum à 40°C)

Adapté pour l'utilisation en climat tropical

Puissance maximum dissipée<sup>1</sup>: ≤ 2W

<sup>1</sup>Pour le dimensionnement thermique du coffret

## BOITIER

Boîtier: encastré (découpe panneau 45x45 mm)

Profondeur: 102 mm

Face avant: 48x48 mm (52x52 mm avec option IP54)

Raccordement: faston 6,3 x 0,8 mm

Matériau du boîtier: makrolon autoextinguible

Degré de protection (EN60529): IP40 face avant, IP20 bornes

Option: kit pour protection face avant IP54

Poids: 200 grammes

## OUTPUT

Relay: 1 SPDT contact

Contact range: 5A 250Vac cosφ 1 - 3A 250Vac cosφ 0,4 - 5A 30Vdc

Negative security (normally de-energised relay) or positive security fail safe (normally energised relay): selectable by dip switch

## AUXILIARY SUPPLY

Rated value Uaux: 24V - 48V - 115V - 230V - 240V - 400V

Tolerance: 0,85...1,1Uaux - 40...60V (Uaux 48V)

Rated frequency: 50Hz

Tolerance: 47...63Hz

Rated burden: ≤ 2,5VA

Rated value Uaux: 20...150Vdc

Protected against incorrect polarity

Rated burden: ≤ 2,5W

Immunity to short interruption of supply voltage up to 300ms (Rated Uaux)

## INSULATION

(IEC 60947-1)

Installation category: III

Pollution degree: 2

Insulation reference voltage: 450V

Impulse voltage test 5kV 1,2/50µs 0,5J

Considered circuits: input, relay output, auxiliary supply

A.C. voltage test 2,5kV r.m.s. 50Hz/1 min

Considered circuits: input, relay output, auxiliary supply

A.C. voltage test 4kV r.m.s. 50Hz/1 min

Considered circuits: all circuits and earth

## TESTS FOR ELECTROMAGNETIC COMPATIBILITY

Emission tests according to IEC/EN 60947-2

Immunity tests according to IEC/EN 60947-2

## ENVIRONMENTAL CONDITIONS

Nominal temperature range: -5...50°C

Limit temperature range: -10...55°C

Limit temperature range for storage: -40...70°C

Relative humidity (IEC60755): 50% (highest value at 40°C)

Suitable for tropical climates

Max. power dissipation<sup>1</sup>: ≤ 2W

<sup>1</sup>For switchboard thermal calculation

## HOUSING

Housing: flush mounting (panel cutout 45x45 mm)

Depth: 102 mm

Front frame: 48x48 mm (52x52 with IP54 option)

Connections: fast-ons 6,3 x 0,8 mm.

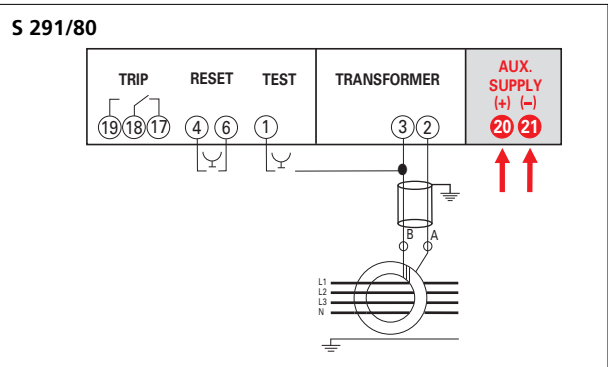
Housing material: self-extinguishing makrolon

Protection degree (EN60529): IP40 front frame, IP20 terminals

Option: kit for IP54 front frame protection

Weight: 200 grams

SCHEMA DE RACCORDEMENT    *WIRING DIAGRAM*



DIMENSIONS    *DIMENSIONS*

