# 3SR8-F, from 30 to 630 A

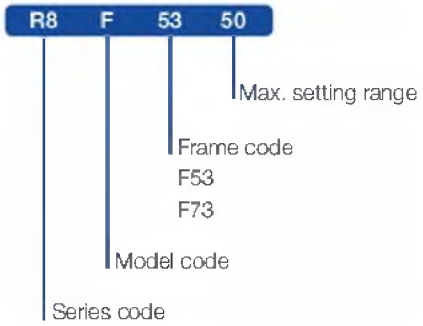
Independent power supply with build-in power source,directly draws power from the incoming end to avoid the risk of protection function failure caused by external p failure.

- Overload protection
- Short circuit protection
- Isolation
- Controlling
- Used in residential building, non-residential building, industry, energy and infrastructure

## Applications And Functions For Thermal Relay 3SR8-F

- Protecting the loads from overload and phase failure
- Implementing short-circuit protection by means of fuse or circuit breaker
- Used for the protection of motors

## Instruction of type code




## Techinical specifications for thermal relay 3SR8-F

| Type | 3SR8-F53 | 3SR8-F73 |
|---|---|---|
| Standard | IEC 60947-4-1 | |
| Tripping class | 10 A, 20 A | |
| Rated operational voltage Ue (V) | 1000 | |
| Rated working current Ie (A) | 220 | 630 |
| Setting range (A) | 30-220 | 200-630 |
| Reset | Manual on front of relay | |
| Rated insulation voltage Ui (V) | 1000 | |
| Rated impulse withstand voltage Uimp (kV) | 6 | |
| Tightening torque (N·m) | 0.8 | |
| Degree of protection | IP20 | |

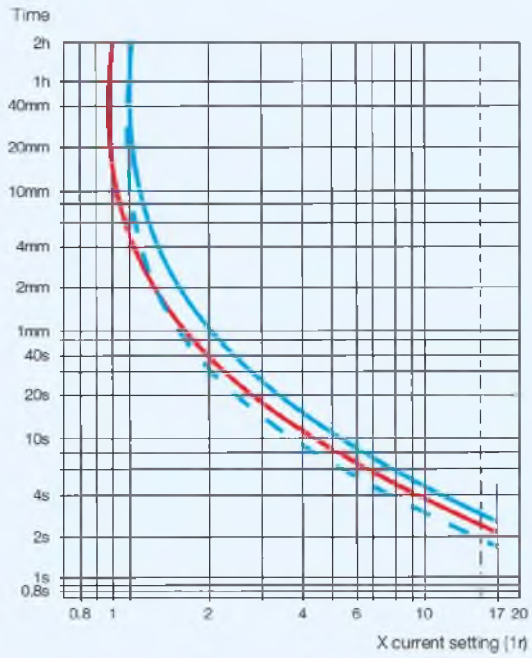
| | |
|---|---|
| **Ambient air temperature (°C)** | -5 to +40, max. 95 % humidity |
| **Storage temperature (°C)** | -40 ~ +75 |
| **Maximum operating altitude (meters)** | 2000 |
| **Flame resistance** | V1 |

## Selection and ordering data

**3SR8-F thermal relay matched with contactor 3SC8-F**

| Current setting range | Fuses to be used with selected relay maximum rating | | Matched contactor | | |
|---|---|---|---|---|---|
| | aM Type | gG Type | | | |
| (A) | (A) | (A) | | Type code | Order code |
| 30-50 | 50 | 80 | 3SC8-F115...F185 | R8 F53/50 | **15710** |
| 48-80 | 80 | 125 | 3SC8-F115...F185 | R8 F53/80 | **15711** |
| 60-100 | 100 | 200 | 3SC8-F115...F185 | R8 F53/100 | **15712** |
| 90-150 | 160 | 250 | 3SC8-F115...F185 | R8 F53/150 | **15713** |
| 132-220 | 250 | 315 | 3SC8-F225...F265 | R8 F53/220 | **15714** |
| 200-330 | 400 | 500 | 3SC8-F225...F500 | R8 F73/330 | **15715** |
| 300-500 | 500 | 800 | 3SC8-F225...F500 | R8 F73/500 | **15716** |
| 380-630 | 630 | 800 | 3SC8-F400...F630 | R8 F73/630 | **15717** |

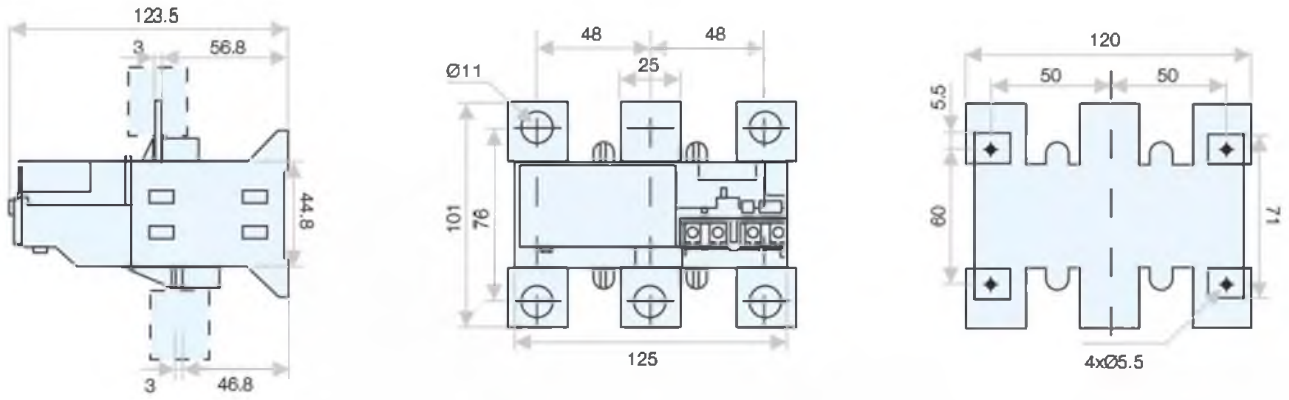
## Tripping curve for thermal relay 3SR8-F



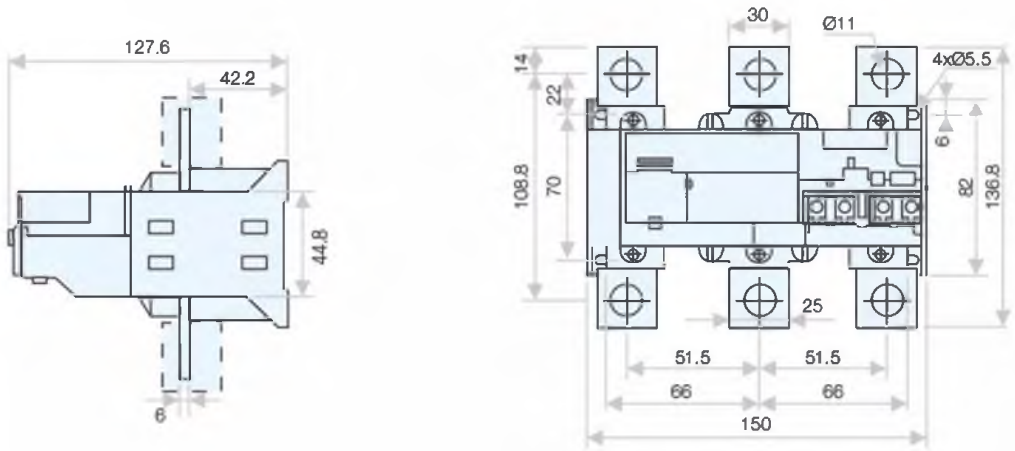

## Outline and installation dimensions (Series 3SR8-F)

unit in mm

3SR8-F53




3SR8-F73



## 3SR8, from 0.1 to 93 A

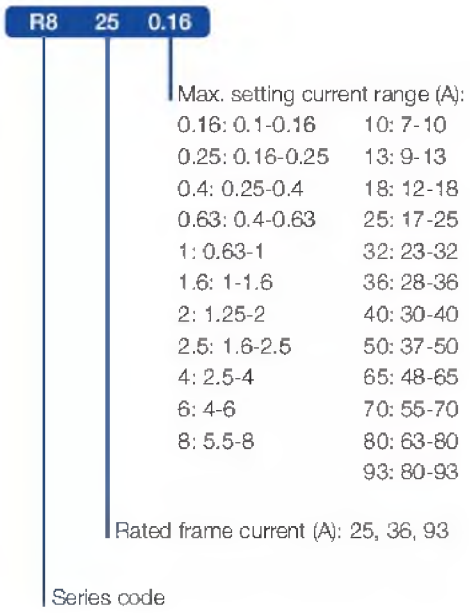
Independent power supply with build-in power source,directly draws power from the incoming end to avoid the risk of protection function failure caused by supply failure.

- Overload protection
- Short circuit protection
- Isolation
- Controlling
- Used in residential building, non-residential building, industry, energy and infrastructure

## Applications And Functions For Thermal Relay 3SR8

- Protecting the loads from overload and phase failure
- Implementing short-circuit protection by means of a fuse or circuit breaker
- Used for the protection of motors

## Instruction of type code




## Technical specifications for assembled thermal relay of type 3SR8

| Type | 3SR8-D13 | 3SR8-D23 | 3SR8-D33 |
|---|---|---|---|
| Standard | IEC 60947-4-1 | | |
| Tripping class | 10 A | | |
| Rated working current Ie (A) | 25 | 36 | 93 |
| Setting range (A) | 0.1-25 | 23-36 | 23-93 |

| | |
|---|---|
| **Rated insulation voltage Ui (V)** | 690 |
| **Rated impulse withstand voltage Uimp (kV)** | 6 |
| **Signalling Trip indicator** | Trip indicator |
| **Tightening torque (N·m)** | 0.8 |
| **Degree of protection** | IP20 |
| **Ambient air temperature (°C)** | -5 to +40, max. 95 % humidity |
| **Storage temperature (°C)** | -40 ~ +75 |
| **Maximum operating altitude (meters)** | 2000 |
| **Flame resistance** | V1 |
| **Mounting** | Directly under the contactor |

## Selection and ordering data

**Series 3SR8**

| Rated frame current (A) | Current setting range (A) | Matched fuse type aM (A) | Matched fuse type gG (A) | Matched AC contactor | Type code | Order code |
|---|---|---|---|---|---|---|
| 25 | 0.1~0.16 | 0.25 | 2 | 3SC8-09 | R8 25/0.16 | 22875 |
| | 0.16~0.25 | 0.25 | 2 | 3SC8-09 | R8 25/0.25 | 22876 |
| | 0.25~0.4 | 1 | 2 | 3SC8-09 | R8 25/0.40 | 22877 |
| | 0.4~0.63 | 1 | 2 | 3SC8-09 | R8 25/0.63 | 22878 |
| | 0.63~1 | 2 | 4 | 3SC8-09 | R8 25/1 | 22879 |
| | 1~1.6 | 2 | 4 | 3SC8-09 | R8 25/1.6 | 22880 |
| | 1.25~2 | 4 | 6 | 3SC8-09 | R8 25/2 | 22881 |
| | 1.6~2.5 | 4 | 6 | 3SC8-09 | R8 25/2.5 | 22882 |
| | 2.5~4 | 6 | 10 | 3SC8-09 | R8 25/4 | 22883 |
| | 4~6 | 8 | 16 | 3SC8-09 | R8 25/6 | 22884 |
| | 5.5~8 | 12 | 20 | 3SC8-09 | R8 25/8 | 22885 |
| | 7~10 | 12 | 20 | 3SC8-12 | R8 25/10 | 22886 |
| | 9~13 | 16 | 25 | 3SC8-12 | R8 25/13 | 22887 |
| | 12~18 | 20 | 35 | 3SC8-18 | R8 25/18 | 22888 |
| | 17~25 | 25 | 50 | 3SC8-25 | R8 25/25 | 22889 |
| 36 | 23~32 | 40 | 63 | 3SC8-32 | R8 36/32 | 22890 |
| | 28~36 | 40 | 80 | 3SC8-32 | R8 36/36 | 22891 |
| 93 | 23~32 | 40 | 63 | 3SC8-40 | R8 93/32 | 22892 |
| | 30~40 | 40 | 100 | 3SC8-40 | R8 93/40 | 22893 |
| | 37~50 | 63 | 100 | 3SC8-50 | R8 93/50 | 22894 |
| | 48~65 | 63 | 100 | 3SC8-65 | R8 93/65 | 22895 |
| | 55~70 | 80 | 125 | 3SC8-80 | R8 93/70 | 22896 |
| | 63~80 | 80 | 125 | 3SC8-80 | R8 93/80 | 22897 |
| | 80~93 | 100 | 160 | 3SC8-95 | R8 93/93 | 22898 |

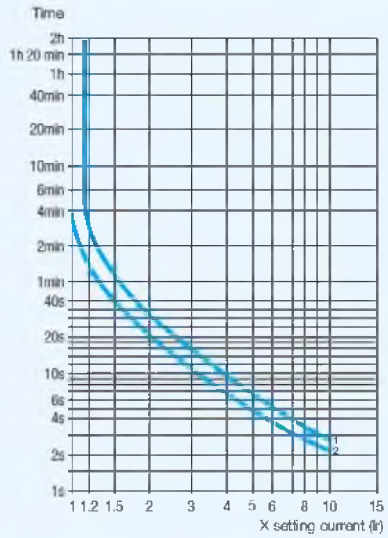
**Mounting block**

| Matechd relay | Type code | Order code |
|---|---|---|
| R8 25 | C8 A7D1064 | 15971 |
| R8 36 | C8 A7D2064 | 15972 |
| R8 93 | C8 A7D3064 | 15973 |

## Action characterisitics for thermal relay 3SR8

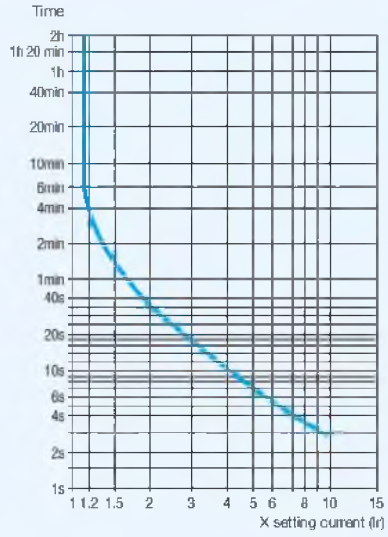
Average operating time related to multiples of the current setting (Class 10 A)

Balanced 3-phase operation, from cold state

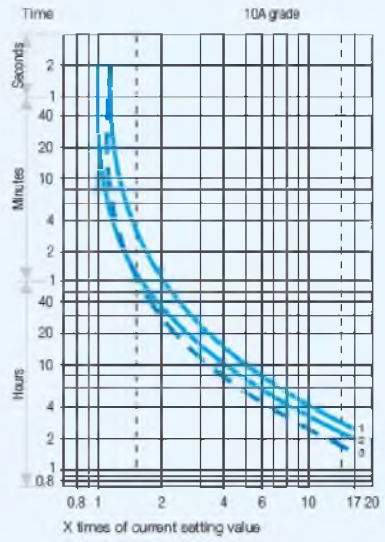



1. Setting: at lower end of scale
2. Setting: at upper end of scale

Balanced operation with 2 phases only, from cold state

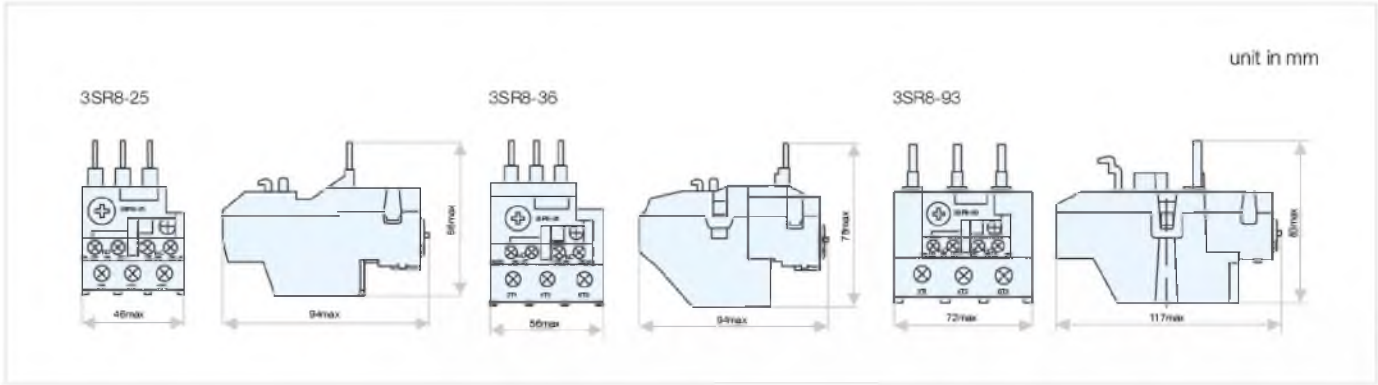



## Tripping curve for thermal relay 3SR8

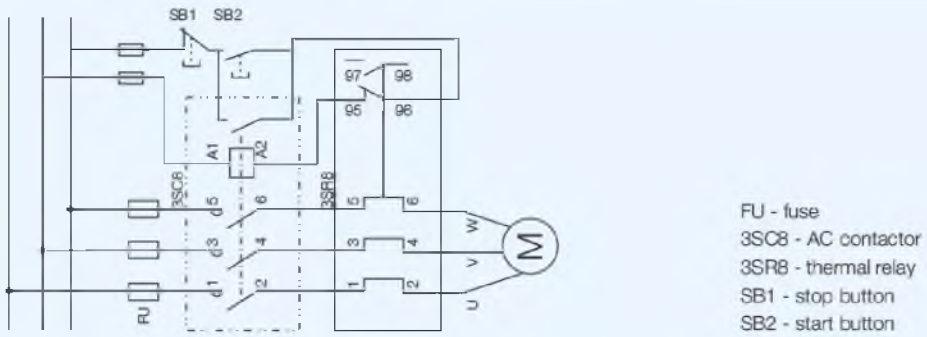



1. Equilibrium running, 3 phase, start from cold state
2. Equilibrium running, 2 phase, start from cold state
3. Equilibrium running, 3 phase, after long period of setting current (hot state)

## Outline and installation dimensions




## Operating principle diagram of overload relay



## 3SR8-K, from 0.11 to 14 A

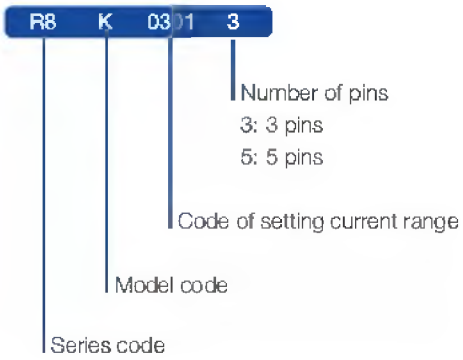
Independent power supply with build-in power source,directly draws power from the incoming end to avoid the risk of protection function failure caused by supply failure.

- Overload protection
- Short circuit protection
- Isolation
- Controlling
- Used in residential building, non-residential building, industry, energy and infrastructure

## Applications And Functions For Thermal Relay

- Protecting the loads from overload and phase failure
- Implementing short-circuit protection by means of a fuse or circuit breaker
- Used for the protection of motors

## Instruction of type code




## Techinical specifications for assembled thermal relay of type 3SC8-K

- Type: 3SR8-K
- Standard: IEC 60947-4-1
- Tripping class: 10 A
- Number of connecting pin: 4
- Rated operational voltage Ue (V): up to 690
- Rated insulation voltage Ui (V): 690
- Rated impulse withstand voltage Uimp (kV): 6
- Rated current range In (A):
  0.11-0.16, 0.16-0.23, 0.23-0.36, 0.36-0.54,
  0.54-0.8, 0.8-1.2, 1.8-2.6, 2.6-3.7,
  3.7-5.5, 5.-8, 8-11.5, 10-14
- Signalling: Trip indicator
- Tightening torque (N·m): 0.8
- Degree of protection: IP20

- Ambient air temperature (°C): -5 to +40, max. 95 % humidity
- Storage temperature (°C): -40 ~ +75
- Maximum operating altitude (meters): 2000
- Flame resistance: V1
- Mounting: directly under the contactor

## Selection and ordering data

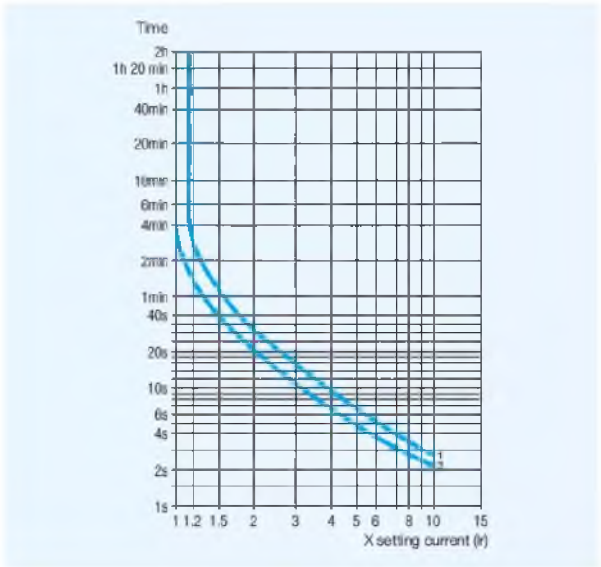
**3SR8-K thermal relay matched with contactor 3SC8-K**

| | Current setting range (A) | Fuses to be used with selected relay aM Type (A) | gG Type (A) | Type code | Order code |
|---|---|---|---|---|---|
| 3SR8-K 5 Pins  | 0.11-0.16 | 0.25 | 0.5 | R8 K0301/5 | **15594** |
| | 0.16-0.23 | 0.25 | 0.5 | R8 K0302/5 | **15595** |
| | 0.23-0.36 | 0.5 | 1 | R8 K0303/5 | **15596** |
| | 0.36-0.54 | 1 | 1.6 | R8 K0304/5 | **15597** |
| | 0.54-0.8 | 1 | 2 | R8 K0305/5 | **15598** |
| | 0.8-1.2 | 2 | 6 | R8 K0306/5 | **15599** |
| | 1.8-2.6 | 4 | 8 | R8 K0308/5 | **15600** |
| | 2.6-3.7 | 4 | 10 | R8 K0310/5 | **15601** |
| | 3.7-5.5 | 6 | 16 | R8 K0312/5 | **15602** |
| | 5.-8 | 8 | 20 | R8 K0314/5 | **15603** |
| | 8-11.5 | 10 | 25 | R8 K0316/5 | **15604** |
| | 10-14 | 16 | 32 | R8 K0321/5 | **15605** |

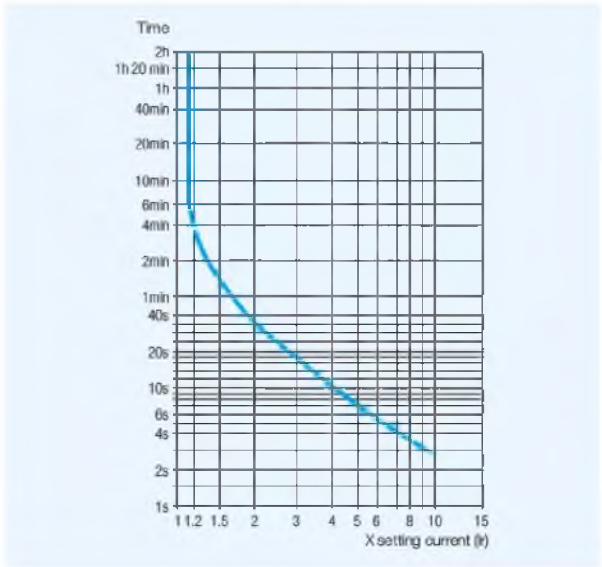
## Tripping curve of thermal relay 3SR8-K

Average operating time related to multiples of the current setting (Class 10 A)

Balanced 3-phase operation, from cold state




Balanced operation with 2 phases only, from cold state




1. Setting: at lower end of scale
2. Setting: at upper end of scale

## Outline and installation dimensions (3SC8-K, 3SR8-K)

## PTR61F, from 30 to 630 A

- Protecting the loads from overload and phase failure
- Implementing short-circuit protection by means of a fuse or circuit breaker.
- Used for the protection of motors

## Applications And Functions For Thermal Relay

- Protecting the loads from overload and phase failure
- Implementing short-circuit protection by means of a fuse or circuit breaker.
- Used for the protection of motors.

## Techinical specifications

| Type | PTR61F-53 | PTR61F-73 |
|---|---|---|
| Standard | IEC 60947-4-1 | |
| Tripping class | 10 A, 20 A | |
| Rated operational voltage Ue (V) | 1000 | |
| Rated working current Ie (A) | 220 | 630 |
| Setting range (A) | 30 ... 50, 48 ... 80, 60 ... 100, 90 ... 150, 132 ... 220 | 200 ... 330, 300 ... 500, 380 ... 630 |
| Reset | Manual on front of relay | |
| Rated insulation voltage Ui (V) | 1000 | |
| Rated impulse withstand voltage Uimp (kV) | 6 | |
| Tightening torque (N•m) | 0.8 | |
| Degree of protection | IP20 | |
| Ambient air temperature (°C) | -5 to +40, max. 95 % humidity | |
| Storage temperature (°C) | -40 ~ +75 | |
| Maximum operating altitude (meters) | 2000 | |
| Flame resistance | V1 | |

Next: PTR61, from 0.1 to 93 A

## PTR61, from 0.1 to 93 A

- Protecting the loads from overload and phase failure
- Implementing short-circuit protection by means of a fuse or circuit breaker.
- Used for the protection of motors

## Applications And Functions For Thermal Relay

- Protecting the loads from overload and phase failure
- Implementing short-circuit protection by means of a fuse or circuit breaker.
- Used for the protection of motors.

## Techinical specifications

| Type | PTR61-25 | PTR61-36 | PTR61-93 |
|---|---|---|---|
| Standard | IEC 60947-4-1 | | |
| Tripping class | 10 A | | |
| Rated working current Ie (A) | 25 | 36 | 93 |
| Setting range (A) | 0.1-0.16, 0.16-0.25, 0.25-0.4, 0.4-0.63, 0.63-1, 1-1.6, 1.25-2, 1.6-2.5, 2.5-4, 4-6, 5.5-8, 7-10, 9-13, 12-18, 17-25 | 23-32, 28-36, | 23-32, 30-40, 37-50, 48-65, 55-70, 63-80, 80-93 |
| Rated insulation voltage Ui (V) | 690 | | |
| Rated impulse withstand voltage Uimp (kV) | 6 | | |
| Signalling Trip indicator | Trip indicator | | |
| Tightening torque (N-m) | 0.8 | | |
| Degree of protection | IP20 | | |
| Ambient air temperature (°C) | -5 to +40, max. 95 % humidity | | |
| Storage temperature (°C) | -40 ~ +75 | | |
| Maximum operating altitude (meters) | 2000 | | |
| Flame resistance | V1 | | |
| Mounting | Directly under the contactor | | |

# PTR61K, from 0.11 to 14 A

Independent power supply with build-in power source,directly draws power from the incoming end to avoid the risk of protection function failure caused by supply failure.

- Overload protection
- Short circuit protection
- Isolation
- Controlling
- Used in residential building, non-residential building, industry, energy and infrastructure

## Applications And Functions For Thermal Relay

- Protecting the loads from overload and phase failure
- Implementing short-circuit protection by means of a fuse or circuit breaker
- Used for the protection of motors

## Techinical specifications for assembled thermal relay of type PC61K

- Type: PTR61K
- Standard: IEC 60947-4-1
- Tripping class: 10 A
- Number of connecting pin: 4
- Rated operational voltage Ue (V): up to 690
- Rated insulation voltage Ui (V): 690
- Rated impulse withstand voltage Uimp (kV): 6
- Rated current range In (A):
  0.11-0.16, 0.16-0.23,
  0.23-0.36, 0.36-0.54,
  0.54-0.8, 0.8-1.2,
  1.8-2.6, 2.6-3.7,
  3.7-5.5, 5.-8,
  8-11.5, 10-14
- Signalling: Trip indicator
- Tightening torque (N·m): 0.8
- Degree of protection: IP20
- Ambient air temperature (°C): -5 to +40, max. 95 % humidity
- Storage temperature (°C): -40 ~ +75
- Maximum operating altitude (meters): 2000
- Flame resistance: V1
- Mounting: directly under the contactor

## Selection and ordering data

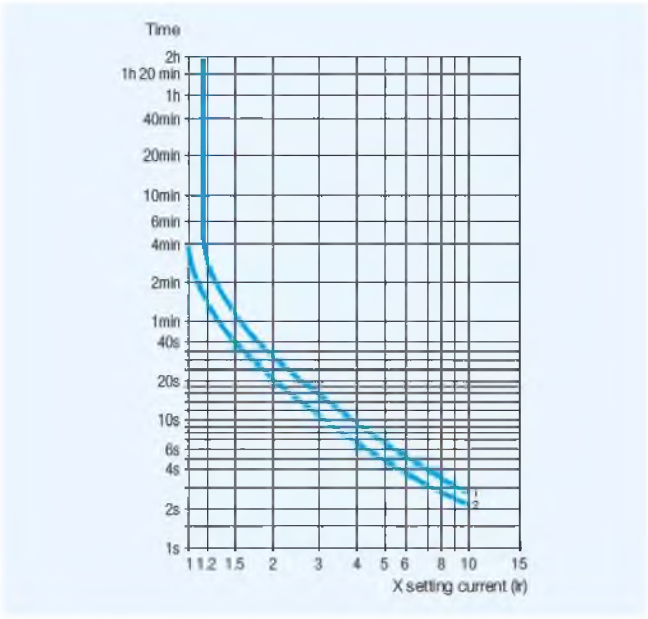
**Thermal overload relays PTR61K, 0.11 to 14 A**

| For contactors | Current setting range (A) | Fuses to be used with selected relay aM (A) | gG (A) | Type code |
|---|---|---|---|---|
| PC61K | 0.11 ... 0.16 | 0.25 | 0.5 | PTR61K-5-0.16 |
| | 0.16 ... 0.23 | 0.25 | 0.5 | PTR61K-5-0.23 |
| | 0.23 ... 0.36 | 0.5 | 1 | PTR61K-5-0.36 |
| | 0.36 ... 0.54 | 1 | 1.6 | PTR61K-5-0.54 |
| | 0.54 ... 0.8 | 1 | 2 | PTR61K-5-0.8 |
| | 0.8 ... 1.2 | 2 | 6 | PTR61K-5-1.2 |
| | 1.2 ... 1.8 | 2 | 8 | PTR61K-5-1.8 |
| | 1.8 ... 2.6 | 4 | 8 | PTR61K-5-2.6 |
| | 2.6 ... 3.7 | 4 | 10 | PTR61K-5-3.7 |
| | 3.7 ... 5.5 | 6 | 16 | PTR61K-5-5.5 |
| | 5.5 ... 8 | 8 | 20 | PTR61K-5-8 |
| | 8 ... 11.5 | 10 | 25 | PTR61K-5-11.5 |
| | 10 ... 14 | 16 | 32 | PTR61K-5-14 |
| | 12 ... 16 | 20 | 40 | PTR61K-5-16 |

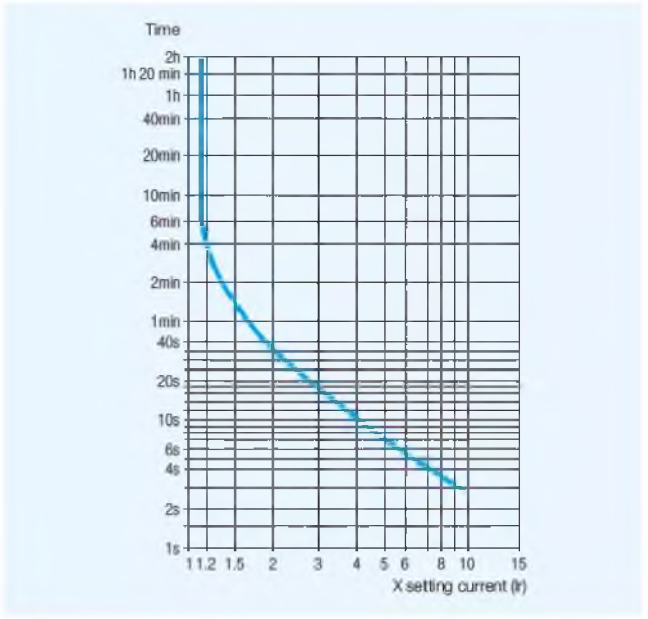
## Tripping curve of thermal relay PTR61K

Average operating time related to multiples of the current setting (Class 10 A)

Balanced 3-phase operation, from cold state

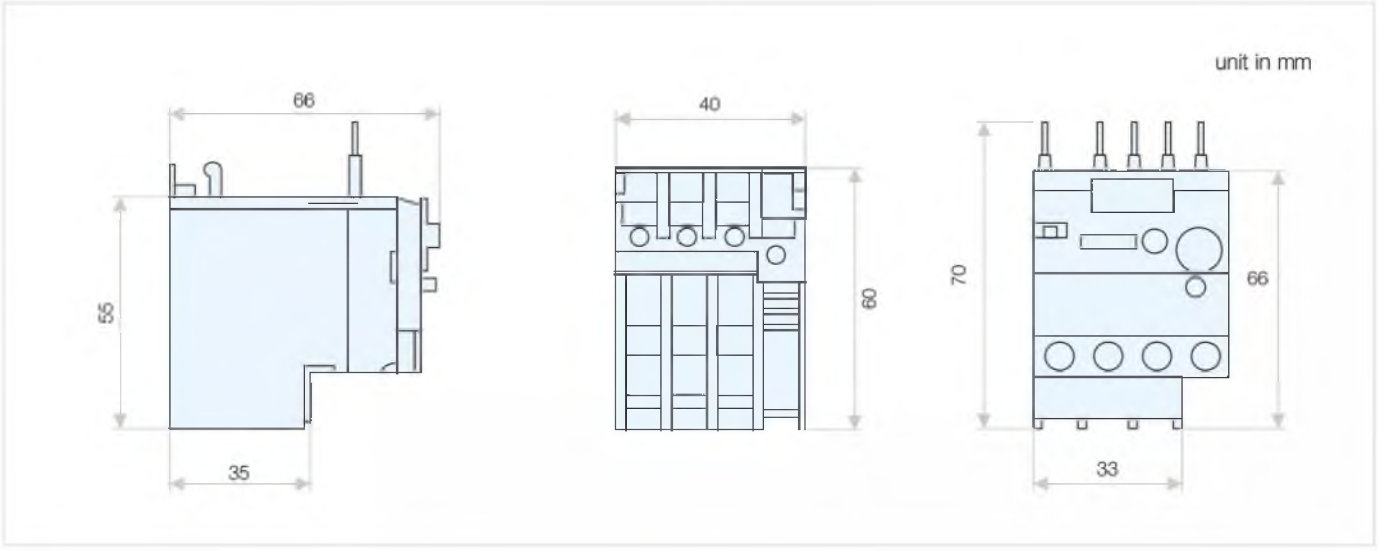



Balanced operation with 2 phases only, from cold state




1 Setting: at lower end of scale
2 Setting: at upper end of scale

## Outline and installation dimensions



# VTR51F, from 30 to 630 A

- Protecting the loads from overload and phase failure
- Implementing short-circuit protection by means of a fuse or circuit breaker.
- Used for the protection of motors.

## Technical Specifications

| Type | VTR51F-53 | VTR51F-73 |
|---|---|---|
| Standard | IEC 60947-4-1 | |
| Tripping class | 10 A, 20 A | |
| Rated operational voltage Ue (V) | 1000 | |
| Rated working current Ie (A) | 220 | 630 |
| Setting range (A) | 30 ... 50, 48 ... 80, 60 ... 100, 90 ... 150, 132 ... 220 | 200 ... 330, 300 ... 500, 380 ... 630 |
| Reset | Manual on front of relay | |
| Rated insulation voltage Ui (V) | 1000 | |
| Rated impulse withstand voltage Uimp (kV) | 6 | |
| Tightening torque (N·m) | 0.8 | |
| Degree of protection | IP20 | |
| Ambient air temperature (°C) | -5 to +40, max. 95 % humidity | |
| Storage temperature (°C) | -40 ~ +75 | |
| Maximum operating altitude (meters) | 2000 | |
| Flame resistance | V1 | |

## VTR51K, from 0.11 to 14 A

- Overload protection and phase-failure protection.
- Implementing short-circuit protection by means of a fuse or circuit breaker.
- Used for the protection of motors.

## Techinical Specifications For Assembled Thermal Relay Of Type VC51K

- Type: VTR51K
- Standard: IEC 60947-4-1
- Tripping class: 10 A
- Number of connecting pin: 4
- Rated operational voltage Ue (V): up to 690
- Rated insulation voltage Ui (V): 690
- Rated impulse withstand voltage Uimp (kV): 6
- Rated current range In (A):
  0.11-0.16, 0.16-0.23,
  0.23-0.36, 0.36-0.54,
  0.54-0.8, 0.8-1.2,
  1.8-2.6, 2.6-3.7,
  3.7-5.5, 5-8,
  8-11.5, 10-14
- Signalling: Trip indicator
- Tightening torque (N·m): 0.8
- Degree of protection: IP20
- Ambient air temperature (℃): -5 to +40, max. 95 % humidity
- Storage temperature (℃): -40 ~ +75
- Maximum operating altitude (meters): 2000
- Flame resistance: V1
- Mounting: directly under the contactor

## VTR51, from 0.1 to 93 A

- Protecting the loads from overload and phase failure
- Implementing short-circuit protection by means of a fuse or circuit breaker.
- Used for the protection of motors.

## Technical Specifications

| Type | VTR51-25 | VTR51-36 | VTR51-93 |
|---|---|---|---|
| Standard | IEC 60947-4-1 | | |
| Tripping class | 10 A | | |
| Rated working current Ie (A) | 25 | 36 | 93 |
| Setting range (A) | 0.1-0.16, 0.16-0.25, 0.25-0.4, 0.4-0.63, 0.63-1, 1-1.6, 1.25-2, 1.6-2.5, 2.5-4, 4-6, 5.5-8, 7-10, 9-13, 12-18, 17-25 | 23-32, 28-36, | 23-32, 30-40, 37-50, 48-65, 55-70, 63-80, 80-93 |
| Rated insulation voltage Ui (V) | 690 | | |
| Rated impulse withstand voltage Uimp (kV) | 6 | | |
| Signalling Trip indicator | Trip indicator | | |
| Tightening torque (N·m) | 0.8 | | |
| Degree of protection | IP20 | | |
| Ambient air temperature (°C) | -5 to +40, max. 95 % humidity | | |
| Storage temperature (°C) | -40 ~ +75 | | |
| Maximum operating altitude (meters) | 2000 | | |
| Flame resistance | V1 | | |
| Mounting | Directly under the contactor | | |