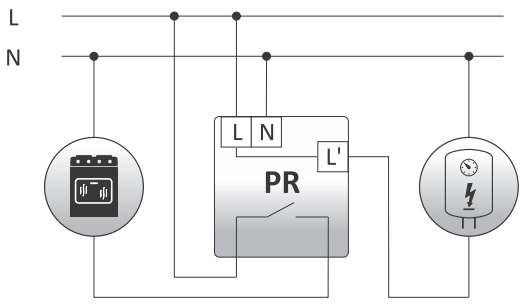
Priority relays

Purpose

Priority relays are used, among others, when to the current circuit are connected at least 2 high-power receivers, which can work independently, and their simultaneous operation would cause the activation of current protections.

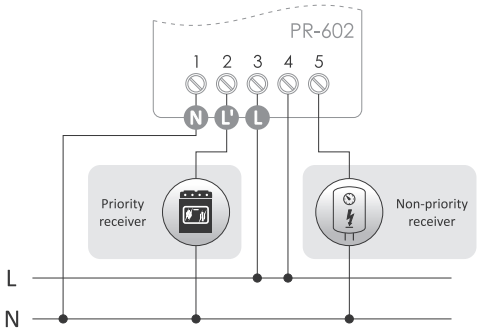
Functioning

Using the potentiometer we can set the value of the current consumption in the priority circuit above which the relay disconnects the non-priority circuit. A drop in the current consumption in the priority circuit below the set threshold value will automatically switch on the non-priority circuit. If a priority receiver is already switched on, the relay will prevent the non-priority receiver from being switched on.



For circuits with PR (priority relays), it is recommended to use overcurrent protections with longer activation time so that they do not overtake the PR reaction.

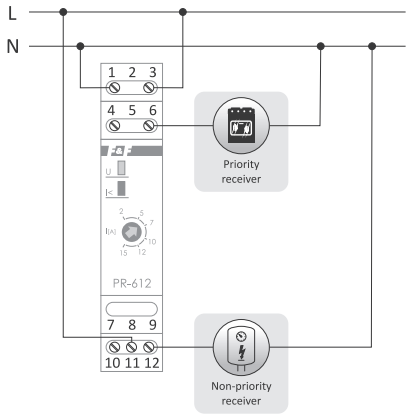
PR-602 adjustment range: 2÷15 A



power supply	195÷253 V AC
maximum non-priority receivers current (AC-1)*	16 A
maximum priority receivers current (AC-1)	15 A
contact	separated 1×NO
switching current	2÷15 A
switching delay	0.1 s
return hysteresis	10%
return delay	0.1 s
power consumption	0.4 W
working temperature	-25÷50°C
terminal	2.5 mm² screw terminals (cord) 4.0 mm² screw terminals (wire)
tightening torque	0.5 Nm
dimensions	50×67×26 mm
mounting	surface
ingress protection	IP20

* a higher current requires an additional contactor

PR-612 adjustment range: 2÷15 A



power supply	195÷253 V AC
maximum non-priority receivers current (AC-1)*	16 A
maximum priority receivers current (AC-1)	15 A
contact	separated 1×NO/NC
switching current	2÷15 A
switching delay	0.1 s
return hysteresis	10%
return delay	0.1 s
power consumption	0.4 W
working temperature	-25÷50°C
terminal	2.5 mm² screw terminals (cord) 4.0 mm² screw terminals (wire)
tightening torque	0.5 Nm
dimensions	1 module (18 mm)
mounting	on TH-35 rail
ingress protection	IP20

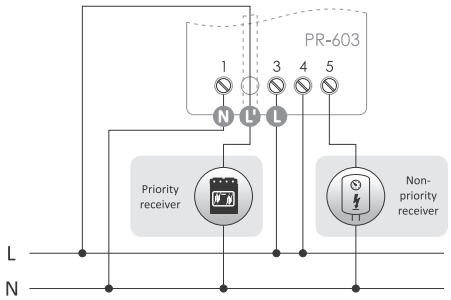
* a higher current requires an additional contactor

With a pass-through duct for the current cable of the receiver

Purpose

For priority circuits with a load capacity of more than 16 A, we use relays with a pass-through duct for the current wire of the receiver (max ø= 4 mm), which is galvanically separated from the measuring system of the relay.

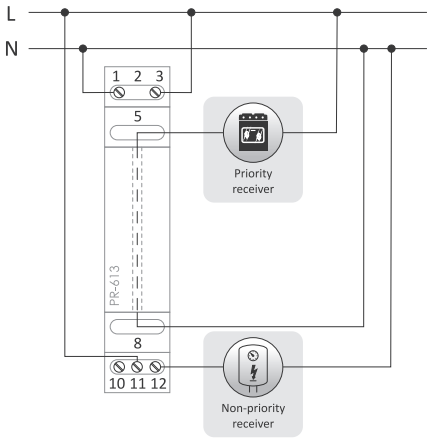
PR-603 adjustment range: 2÷15 A



power supply	195÷253 V AC
maximum non-priority receivers current (AC-1)*	16 A
maximum priority receivers current (AC-1)	limited by the cross-section of the cable (maximum ø4 mm)
contact	separated 1×NO
switching current	2÷15 A
switching delay	0.1 s
return hysteresis	10%
return delay	0.1 s
power consumption	0.4 W
working temperature	-25÷50°C
terminal	2.5 mm² screw terminals (cord) 4.0 mm² screw terminals (wire)
tightening torque	0.5 Nm
dimensions	50×67×26 mm
mounting	surface
ingress protection	IP20

* a higher current requires an additional contacto

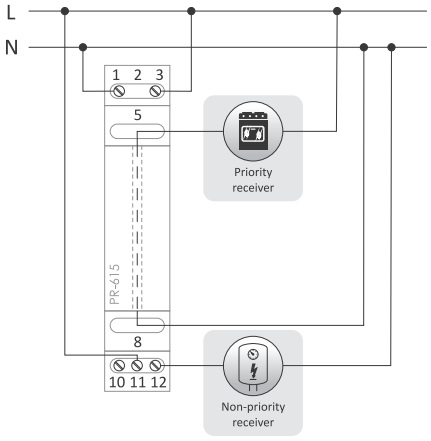
PR-613 adjustment range: 2÷15 A



power supply	195÷253 V AC
maximum non-priority receivers current (AC-1)*	16 A
maximum priority receivers current (AC-1)	limited by the cross-section of the cable (maximum ø4 mm)
contact	separated 1×NO/NC
switching current	2÷15 A
switching delay	0.1 s
return hysteresis	10%
return delay	0.1 s
power consumption	0.4 W
working temperature	-25÷50°C
terminal	2.5 mm² screw terminals
tightening torque	0.4 Nm
dimensions	1 module (18 mm)
mounting	on TH-35 rail
ingress protection	IP20

* a higher current requires an additional contactor

PR-615 adjustment range: 4÷30 A



power supply	195÷253 V AC
maximum non-priority receivers current (AC-1)*	16 A
maximum priority receivers current (AC-1)	limited by the cross-section of the cable (maximum ø4 mm)
contact	separated 1×NO/NC
switching current	4÷30 A
switching delay	0.1 s
return hysteresis	10%
return delay	0.1 s
power consumption	0.4 W
working temperature	-25÷50°C
terminal	2.5 mm² screw terminals
tightening torque	0.4 Nm
dimensions	1 module (18 mm)
mounting	on TH-35 rail
ingress protection	IP20

* a higher current requires an additional contactor

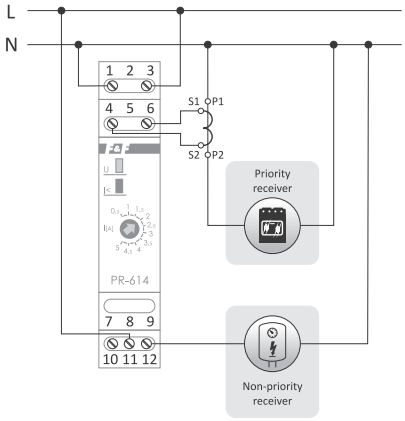
The priority receiver current can be greater than 15 A. It is limited only by the cross-section of the current cable of the receiver (separated from the measuring system), which is passed through the pass-through duct of the relay.

For use with a current transformer

PR-614

Purpose

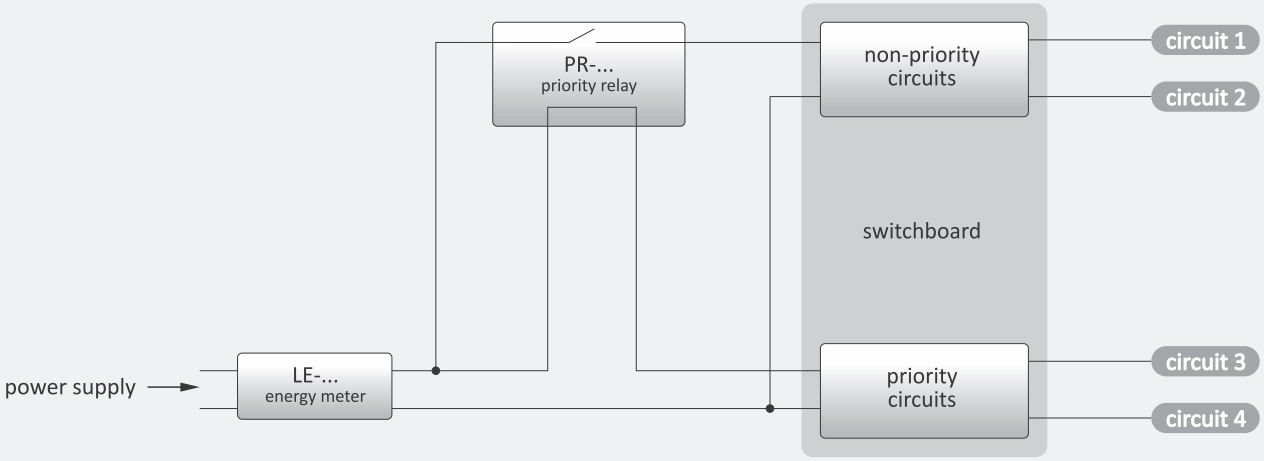
The relay is adapted to work with a current transformer with a secondary current of 5 A.
The primary circuit of the transformer is connected to the current circuit of the priority receiver and the secondary circuit to the measuring terminals of the relay.
Example: For a priority receiver with a maximum load of 140 A, we use a current transformer with parameters of 150/5 A. The ratio is 30.
When the scale value is set to 2 A, the relay will trip when the actual current value is 60 A (2 A × 30 = 60 A).



power supply	195÷253 V AC
maximum non-priority receivers current (AC-1)*	16 A
current of the measuring input 4-6	<5 A
contact	separated 1×NO/NC
switching current	0.5÷5 A
switching delay	0.1 s
return hysteresis	10%
return delay	0.1 s
power consumption	0.4 W
working temperature	-25÷50°C
terminal	2.5 mm² screw terminals
tightening torque	0.4 Nm
dimensions	1 module (18 mm)
mounting	on TH-35 rail
ingress protection	IP20

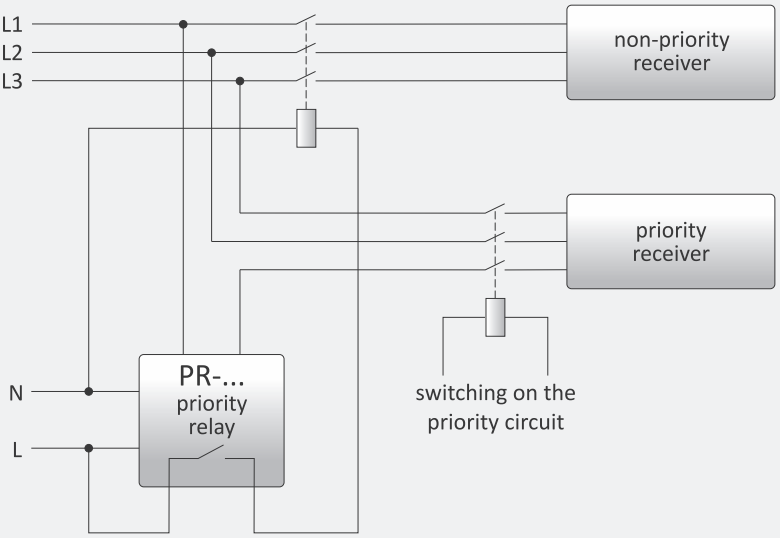
* a higher current requires an additional contactor

Interesting and practical



Protection against exceeding the limit of the contracted power

All PR (priority relays) can be used for three-phase networks and three-phase receivers. In the case of symmetrical receivers, it is enough to connect only 1 PR relay to any phase.
For an asymmetrical receiver, use one relay per each phase with a properly set tripping threshold depending on the load of the given phase.



Use of the PR in the symmetrical three-phase receiver system