

INSULATION RELAYS ISO





Insulation relays

Insulation relay for medical use in IT systems



RIH4001



ARIH001

Cat. Nos. **D4Z - Insulation relay for 230V ac circuit**

Insulation relays for medical use for 230V ac circuit, 1 input from Pt100 + 1 input from CT/5A, 2 contacts, selectable insulation alarm selectable in resistance (R) or impedance (Z) + alarm temperature/power, LED pre-alarm signal, lcd display, output for connection up to 5 remote repeater (Iso Qz), 4 module

RIH4001	Input 230Vac	Alarm threshold 50...500kΩ	N° output 2 (alarm + temperature/power)	Aux 230Vac
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Cat. Nos. **D4Zs - Insulation relay for 24Vac circuit**

Insulation relay for medical use for 24Vac circuit, 1 contact, insulation alarm selectable in resistance (R) or impedance (Z), LED pre-alarm signal, lcd display, output for connection up to 5 remote repeater (Iso Qz), 4 module

RIH4003	Input 24Vac	Alarm threshold 50...500kΩ	N° output 1 (alarm + temperature/power)	Aux 230Vac
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Cat. Nos. **Signal and remote control panel**

Description

Signal and remote control panel for insulation relay Iso D4Z - Iso D4Zs.
Green POWER ON LED
Red FAULT LED
Acoustic warning
TEST and SILENCE button

ARIH001

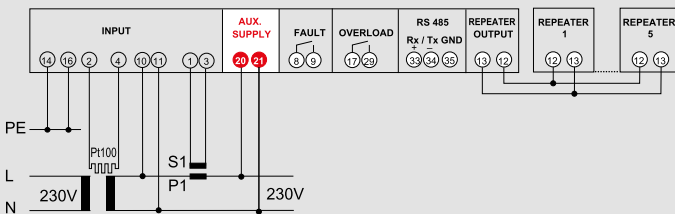
Technical features

CAT. NOS.	RIH4001	RIH4003	ARIH001
TECHNICAL NOTES	NT688	NT689	NT690
REFERENCE STANDARDS			
Standard	EN/IEC 61557-8 (Attachment A and B) IEC 60364-7-710		CEI 64/8-7 Par. 710.51.2 - 710.4 NFC15-211
DISPLAY			
Display type	LCD		-
Digit height	5mm (2 lines x 8 digit)		-
INPUT			
Voltage Connection	insulation transformer Iso TV		-
Rated voltage Un	230V	24V	-
Rated frequency fn	50Hz		-
Working frequency	47...63Hz		-
Insulation measuring circuit current	≤ 100µA		-
External VT temperature	Pt100 2-wire resistance bulb	-	-
Current connection	by CT/5A	-	-
Rated burden input current	≤ 0,5VA	-	-
Input impedance	> 100kΩ	-	-
Measuring voltage	< 15V	-	-
AUXILIARY SUPPLY			
Rated value Uaux ac	230V		Fed via Iso D4. Panel supply insulated from RI2H auxiliary supply and network. Each insulation monitor RI2H can supply up to 5 repeater. Protection against possible short circuit in the connection between RI2H and AR1
Tolerance	0,9...1,1Uaux		
Rated frequency	± 50%Hz		
Working frequency	47...63Hz		
Rated burden	≤ 6VA - ≤ 4W		
ELECTROMAGNETIC COMPATIBILITY			
Emission tests according to	EN/IEC 61326-2-4	EN/IEC 61557-8	EN/IEC 61557-8
Immunity tests according to	EN/IEC 61326-2-4		
ENVIRONMENTAL CONDITIONS			
Nominal temperature range	-5...55°C		
Limit range for storage and transport	-25...70°C		
Suitable for tropical climates	yes		
Max. power dissipation	≤ 4W *		
MECHANICAL FEATURES			
Housing	4 module DIN 43880 (35mm)	flush mounting (106x71mm)	
Connections	screw terminals for cable up to 4mm ²		screw terminals
Housing material	self-extinguishing makrolon		resin
Protection degree (EN/IEC 60529)	IP54 front frame, IP20 terminals	IP30 front frame	

* for switchboard thermal calculation

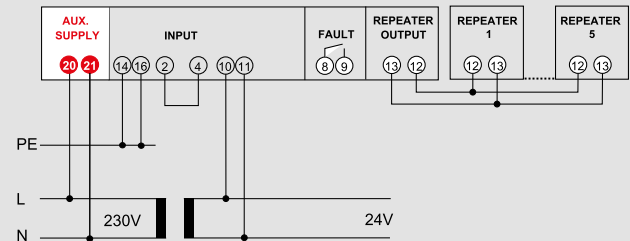
Wiring diagrams

RIH4001

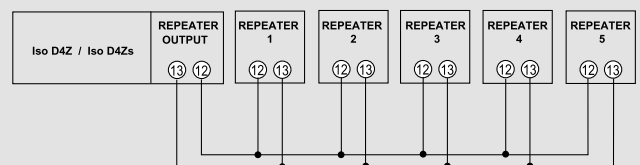


Wiring diagrams

RIH4003



ARIH001



Insulation relays

Insulation transformers for medical use



TI230D500S



TI024D100

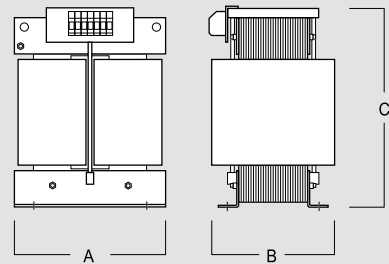
Cat. Nos.	Iso TV - Single-phase isolating transformers		
	Insulation single-phase transformer for medical use complete with Pt100 probe, according to Standards EN/IEC 61558-2-15 Used in connection with Iso D4-Z insulation monitor for a continuous control of the insulation towards ground		
	Primary voltage 230V		
	Secondary voltage 230V		
	Rated output 1,5 – 3 – 5 – 7,5 – 10kVA		
	primary V	V secondary	Power
TI230D150S			1,5kVA
TI230D300S			3kVA
TI230D500S	230Vac	230V	5kVA
TI230D750S			7.5kVA
TI230E100S			10kVA

Cat. Nos.	Iso TV - Single-phase isolating transformers for scialytic lamps		
	Safety single-phase transformer according to Standards EN/IEC 61558-2-6.		
	Used in connection with Iso D4-Zs insulation monitor for a continuous control of the insulation towards ground		
	Primary voltage 230V		
	Secondary voltage 24V		
	Rated output 1kVA		
	primary V	V secondary	Power
TI024D100	230Vac	24V	1kVA

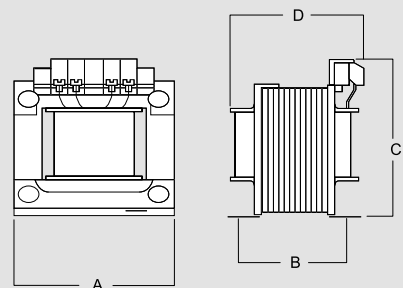
Technical features

CAT. NOS.	TI230D...	TI024D100
TECHNICAL NOTES	NT699	NT700
SPECIFICATIONS		
Standard reference	61558-2-15	EN/IEC 61558-2-6
Classification	non-short-circuit proof transformer	
Rated primary voltage Upn	230V	230V
Rated secondary voltage Usn	230V	24V
Rated frequency	50-60Hz	
Efficiency	> 96%	-
Short-circuit voltage	≤ 3% Upn	-
No-load input current	≤ 3% Ipn	-
Inrush current	≤ 12 Ipn	-
Leakage current of the output winding to earth	≤ 0,5mA	-
Transformer temperature measurement	Pt100 resistance bulb, 2-wire	-
ENVIRONMENTAL CONDITIONS		
Nominal temperature range	40°C	
Limit temperature range for storage	-40...85°C	
MECHANICAL FEATURES		
Installation	Fixed, non exposed	
Protection degree (EN/IEC 60529)	IP00 enclosure, IP20 terminals	
Connection	Screw terminals	

Dimensions and weight



CAT. NOS.	A	B	C	WEIGHT
TI230D150S	200	170	300	~21kg
TI230D300S	250	200	400	~35kg
TI230D500S	250	210	400	~42kg
TI230D750S	280	200	430	~65kg
TI230E100S	280	200	430	~77kg



CAT. NOS.	A	B	C	D	WEIGHT
TI024D100	153	140	133	160	~13,5kg

Insulation relays

Insulation relay for industrial use in IT systems



ISO D4

Cat. Nos. **ISO D4 - alternating current**

Insulation relay for IT network in ac, 1 contact, automatic reset, 4 module.
 Continuous control of insulation towards earth, in IT distribution system at 24...400Vac single-phase network
 Selectable threshold 20...200kΩ or 5...200kΩ
 Alarm relay output

	Input	Alarm threshold	N° output	Aux
RI2A123	24...400Vac	5...200kΩ	1 (alarm)	230Vac
RI2A123	24...400Vac	20...200kΩ	1 (alarm)	230Vac

Cat. Nos. **ISO D4 - direct current**

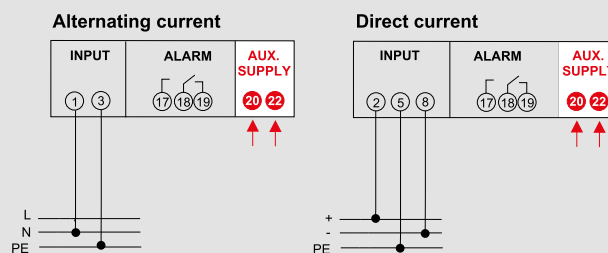
Insulation relay for IT network in dc, 1 contact, automatic reset, 4 module.
 Continuous control of insulation towards earth, in direct current network at 20...60 - 100...160 - 210...230Vdc
 Selectable threshold 20...200kΩ
 Alarm relay output

	Input	Alarm threshold	N° output	Aux
RI2CC13	20...60Vdc	20...200kΩ	1 (alarm)	230Vac
RI2CA13	100...160Vdc	20...200kΩ	1 (alarm)	230Vac
RI2CE13	210...230Vdc	20...200kΩ	1 (alarm)	230Vac

Technical features

CAT. NOS.	ISO D4 (AC)	ISO D4 (DC)
TECHNICAL NOTES	NT491	NT590
INPUT		
Network voltage	24...400Vac	20...60 - 100...160 - 210...230Vdc
Rated frequency fn	50Hz	-
Working frequency	47...63Hz	-
Metering voltage	12Vdc	-
Metering current	< 50µA	≤ 0,5mA
SETTING UP		
Intervention point	selectable by 6-position rotary switch	
Ranges	20/40/70/100/150/200kΩ or 5/10/20/50/100/200kΩ	20/40/70/100/150/200kΩ
ALARM		
Alarm intervention	red LED "ALARM" + relay switching	
Accuracy	± 10% setting value	
Intervention time	≤ 600ms	
Reset	automatic	
Hysteresis	≤ 20%	
OUTPUT		
Relay "ALARM"	1 SPDT contact	
Contact range	5A 250Vac cosφ 1 – 3A 250Vac cosφ 0,4 – 5A 30Vdc	
AUXILIARY SUPPLY		
Rated value Uaux	150 - 230V	
Tolerance	0,85...1,1Vaux	
Rated frequency	50Hz	
Tolerance	47...63Hz	
Rated burden	≤ 4VA	
MECHANICAL FEATURES		
Housing	4 modules DIN 43880 (35mm)	
Connections	screw terminals for cable up to 4mm ²	
Housing material	self-extinguishing makrolon	
Protection degree (EN/IEC 60529)	IP54 front frame IP20 terminals	

Wiring diagrams



Insulation relays

Alternating current and voltage relay



RM2I

RM2U

RM2S

Cat. Nos. **RM2I - Current relay, single-phase network**

Single-phase alternating current relay, 1 contact, selectable min. or max. threshold, automatic or manual reset
Min or max alarm, selectable on field
Adjustable set point, hysteresis and delay
Field selectable negative or positive security (fail safe)
Intervention inhibition when turning on
Ability to store intervention

Input	Alarm threshold	N° output	Aux
RM2IM112	1A	1 (min. or max. alarm)	115Vac
RM2IM113	1A		230Vac
RM2IM11H	1A		20...150Vdc+48Vac
RM2IM11L	1A		150...250Vdc
RM2IM152	5A		115Vac
RM2IM153	5A		230Vac
RM2IM15H	5A		20...150Vdc+48Vac
RM2IM15L	5A		150...250Vdc

Cat. Nos. **RM2U - Voltage relay, single-phase network**

Single-phase alternating voltage relay, 1 contact, selectable min. or max. threshold, automatic or manual reset.
Min or max alarm, selectable on field
Direct input up to 400V
Adjustable set point, hysteresis and delay
Field selectable negative or positive security (fail safe)
Intervention inhibition when turning on
Ability to store intervention

Input	Alarm threshold	N° output	Aux
RM2UM1A2	100V	1 (min. or max. alarm)	115Vac
RM2UM1A3	100V		230Vac
RM2UM1AH	100V		20...150Vdc+48Vac
RM2UM1AL	100V		150...250Vdc
RM2UM1F2	250V		115Vac
RM2UM1F3	250V		230Vac
RM2UM1FH	250V		20...150Vdc+48Vac
RM2UM1FL	250V		150...250Vdc
RM2UM1K2	400V		115Vac
RM2UM1K3	400V		230Vac
RM2UM1KH	400V		20...150Vdc+48Vac
RM2UM1KL	400V		150...250Vdc

Cat. Nos. **RM2S - Voltage relay, three-phase network**

3-phase alternating voltage relay, 1 contact, sequence/failure/asymmetry phases, automatic reset,
Three phase line 380...415V 50 and 60Hz
Voltage asymmetry threshold adjustable 5...25%
Adjustable intervention time 0,2...10s

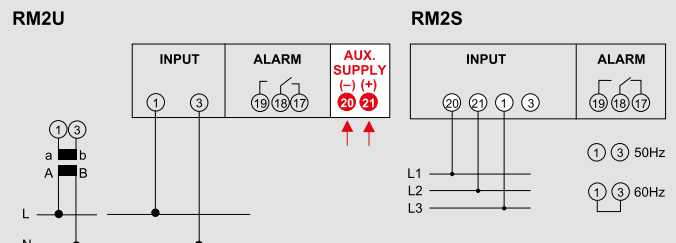
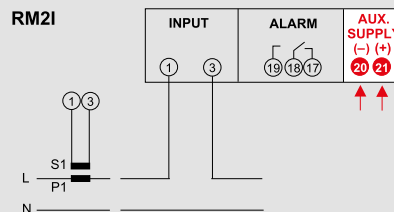
Input	Alarm threshold	N° output	Aux
RM3UT3AA	100V	1 (min. or max. alarm)	self supplied
RM3UT3KA	400V		±20%Un

Technical features

CAT. NOS.	RM2I	RM2U	RM2S
TECHNICAL NOTES	NT548	NT549	NT639
INPUT			
Rated current In	5A or 1A	-	-
Rated Voltage Un	-	100-250-400V	380...415V
Waveform	sinusoidal, form factor 1,11		
Rated frequency fn	50Hz	50 – 60Hz	
Working frequency	47...63Hz	-	
Rated burden	≤ 0,5VA	≤ 0,2VA	≤ 2,7VA
Continuous overload	1,2In	1,2Un	-
Instantaneous overload	2In/5s	-	-
SETTING UP			
Intervention point	min or max alarm, selectable by dip switch		
Asymmetry intervention threshold	continuously adjustable by trimmer		
Adjustable ranges	10...120%In	10...120%Un	5...25%
Intervention time (t)	0,1...10 seconds		
Repeatability	±1%		-
Intervention inhibit when switching on (ts)	0 - 3 - 6 - 9 seconds		-
Hysteresis adjustable range	5...50% of set point		
Reset	-	-	automatic
OUTPUT			
Relay	1 SPDT contact		
Contact range	5A 250Vac cosφ 1 – 3A 250Vac cosφ 0,4 – 5A 30Vdc		
AUXILIARY SUPPLY			
Rated value Uaux ac	115–230–240V	48-115-230-240V	self supplied
Tolerance	0,9...1,1Uaux	0,9...1,1Uaux - 40...60V (48V)	-
Rated frequency	50Hz	-	
Tolerance	47...63Hz	-	
Rated burden	≤ 2,5VA	-	
Rated value Uaux dc	20...150Vdc – 150...250Vdc	-	
Rated burden	≤ 1W	-	
ELECTROMAGNETIC COMPATIBILITY			
Emission tests according to	EN 50081-1, EN 55011		
Immunity tests according to	EN 50082-2		
ENVIRONMENTAL CONDITIONS			
Nominal temperature range	-5...40°C		
Limit temperature range for storage	-40...70°C		
Max. power dissipation	≤ 2.5W *	≤ 2W *	
MECHANICAL FEATURES			
Housing	2 modules DIN 43880 (35mm)		
Connections	screw terminals for cable up to 4mm ²		
Housing material	self-extinguishing makrolon		
Protection degree	IP40 front frame, IP20 terminals		

* for switchboard thermal calculation

Wiring diagrams



Insulation relays

Alternating current relay



RM3I

Cat. Nos. **RM3I**

3-phase alternating current relay, 2 contacts, 1 min. or max. threshold or 2 max. selectable, automatic or manual reset, DIN rail 100x75x110mm
 Min or max alarm, selectable on field
 Adjustable set point, hysteresis and delay
 Field selectable negative or positive security (fail safe)
 Intervention inhibition when turning on
 Ability to store intervention

RM3IT253	Input	Alarm threshold	N° output	Aux
RM3IT25F	5A	15...100%In	2 (min. or max. alarm or 2 max)	230Vac
	5A			24Vdc

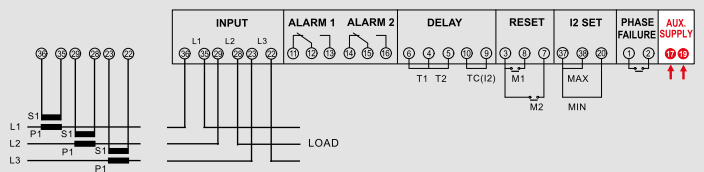
Technical features

TECHNICAL NOTES	NT631
INPUT	
Rated current In	5A
Rated Voltage Un	-
Waveform	sinusoidal, form factor 1,11
Rated frequency fn	50Hz
Working frequency	47...63Hz
Rated burden	≤ 0,5VA
Continuous overload	1,2In
Instantaneous overload	2In/5s
SETTING UP	
Asymmetry intervention threshold	continuously adjustable by trimmer
Adjustable ranges	5...25%
Intervention time (t)	continuously adjustable by trimmer
Reset	automatic
OUTPUT	
Relay	2 SPDT contact
Contact range	5A 250Vac cosφ 1 – 3A 250Vac cosφ 0,4 – 5A 30Vdc
AUXILIARY SUPPLY	
Nominal voltage	230Vac - 24Vdc
ELECTROMAGNETIC COMPATIBILITY	
Emission tests according to	EN 50081-1, EN 55011
Immunity tests according to	EN 50082-2
ENVIRONMENTAL CONDITIONS	
Nominal temperature range	-5...40°C
Limit temperature range for storage	-40...70°C
Suitable for tropical climates	yes
Max. power dissipation	≤ 2W *
MECHANICAL FEATURES	
Mounting	snap-on 35mm DIN rail (5,5 modules)
Connections	screw terminals for cable up to 4mm ²
Housing material	self-extinguishing ABS
Protection degree (EN/IEC 60529)	IP40 front frame, IP20 terminals

* for switchboard thermal calculation

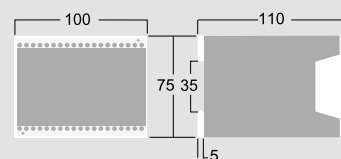
Wiring diagrams

RM3I



Dimensions

RM3I



Insulation relays

Alternating voltage relay



RM3U

Cat. Nos. **RM3U**

3-phase alternating voltage relay, 1 contact, 1 min. or max. threshold, automatic reset, DIN rail 70x75x110mm
 Min or max alarm, selectable on field
 Direct input up to 400V
 Adjustable set point, hysteresis and delay
 Field selectable negative or positive security (fail safe)
 Intervention inhibition when turning on
 Ability to store intervention

	Input	Alarm threshold	N° output	Aux
RM3UT3AA	100V	±20%Un	1 (min. or max. alarm)	self supplied
RM3UT3KA	400V			self supplied

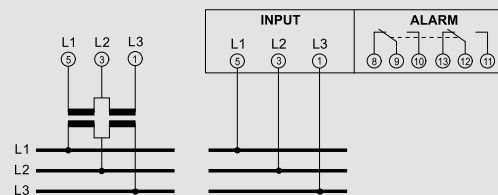
Technical features

TECHNICAL NOTES	NT632
INPUT	
Rated current In	5A
Rated Voltage Un	-
Waveform	sinusoidal, form factor 1,11
Rated frequency fn	50Hz
Working frequency	47...63Hz
Rated burden	≤ 0,5VA
Continuous overload	1,2In
Instantaneous overload	2In/5s
SETTING UP	
Asymmetry intervention threshold	continuously adjustable by trimmer
Adjustable ranges	5...25%
Intervention time (t)	continuously adjustable by trimmer
Reset	automatic
OUTPUT	
Relay	2 SPDT contact
Contact range	5A 250Vac cosφ 1 – 3A 250Vac cosφ 0,4 – 5A 30Vdc
AUXILIARY SUPPLY	
Nominal voltage	Taken from measurement (self-supplied)
ELECTROMAGNETIC COMPATIBILITY	
Emission tests according to	EN 50081-1, EN 55011
Immunity tests according to	EN 50082-2
ENVIRONMENTAL CONDITIONS	
Nominal temperature range	-5...40°C
Limit temperature range for storage	-40...70°C
Suitable for tropical climates	yes
Max. power dissipation	≤ 2W *
MECHANICAL FEATURES	
Mounting	snap-on 35mm DIN rail (2,5 modules)
Connections	screw terminals for cable up to 4mm ²
Housing material	self-extinguishing ABS
Protection degree (EN/IEC 60529)	IP40 front frame, IP20 terminals

* for switchboard thermal calculation

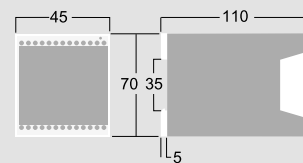
Wiring diagrams

RM3U



Dimensions

RM3U



Insulation relays

Direct current and voltage measuring relay



RM3C

Cat. Nos. **RM3C**

Direct current and voltage measuring relay, 2 contacts, min. and/or max. threshold, automatic reset, 2000-points led display for any quantity directly proportional to programmable input, DIN rail 100x75x110mm.
 Bidirectional direct or pulsating voltage or current relay
 2 Min. and / or Max. programmable alarms
 Input voltage 50mV... 200mV
 Input current 1...20mA
 Programmable measuring range
 Programmable display value
 Storage of highest measured value (resettable)

RM3C211
 RM3C213
 RM3C216
 RM3C21H
 RM3C21L

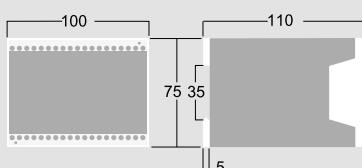
Input	Alarm threshold	N° output	Aux
programmable	programmable	2 (min. or max. alarm)	24Vac
			115Vac
			230Vac
			20...150Vdc+48Vac
			150...250Vdc

Technical features

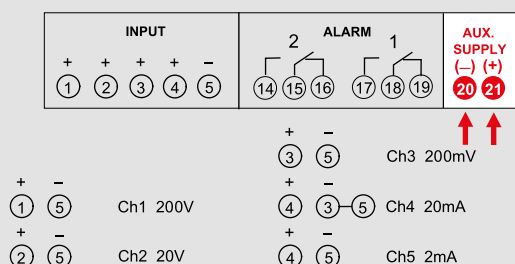
TECHNICAL NOTES	NT633
DISPLAY	
Type of display	7 segments, red LED's
Digit height	14mm
N° of display points	2.000 (3 1/2 digit)
Maximum display	-1999...1999
Offset	-1999...1999 digit
Full scale	1999...1999 digit
Decimal point	00.00 - 000.0 - 0000
PROGRAMMABLE PARAMETERS	
Range (Un / In)	200mV-20V-200V-20mA-2mA
Measuring range	min. 0...0,25Un/In max. -Un/-In...Un/In
ALARMS	
Programmables alarms	2
Set-point programmable	-1999...1999 digit
Hysteresis programmable	-1999...1999 digit
Intervention time	≤ 500ms
Delay (programmable)	0...60s (1s step)
Delay accuracy	±10%
Reset time	≤ 500ms
Output	2 relays with SPDT contacts, potential free
Contacts range	5A 250Vac - 0,5A 100Vdc
Accuracy	2 (0,25%+K)+ 1 digit
INPUT	
Measurement	direct or pulsating current or voltage, average value
Voltage rating Un	200mV - 20V - 200V
Current rating In	20mA - 2mA
Rated frequency	50Hz
Operating frequency	47...63Hz
Continuous overload	1,2Un - 1,2In
Istantaneous overload	2Un/5s - 2In/5s
AUXILIARY SUPPLY	
Rated value Uaux ac	24-48-115-230-240V
Tolerance	± 10% Uaux - 40...60V(Uaux 48V)
Rated frequency	50Hz
Working frequency	47...63Hz
Rated burden	5VA
Rated value Uaux dc	20...150Vdc - 150...250Vdc
Rated burden	3W
ELECTROMAGNETIC COMPATIBILITY	
Emission tests according to	EN/IEC 61326-1
Immunity tests according to	EN/IEC 61326-1
ENVIRONMENTAL CONDITIONS	
Nominal temperature range	-5...40°C
Limit temperature range for storage	-40...70°C
Max. power dissipation	≤ 3,6W *
MECHANICAL FEATURES	
Mounting	snap-on 35mm DIN rail (5,5 modules)
Connections	screw terminals
Housing material	self-extinguishing makrolon
Protection degree (EN/IEC 60529)	IP52 front frame, IP20 terminals

* for switchboard thermal calculation

Dimensions



Wiring diagrams



Insulation relays

Power management relay



Beep

Cat. Nos.

Beep

Beep is a consumption management relay for single phase networks with users up to 6 kW, designed to solve this problem. It continuously monitors the power used and, if the power threshold that can be set is exceeded, it emits a warning by means of a buzzer so that the loads can be manually removed in order to reduce the power before the electricity cuts out or, if there is a type output is enabled, it automatically cuts off the non-priority loads. These are then reactivated after a lapse of time that can be programmed. Thanks to the programming of the overload threshold (up to 6.5 kW), it can be used on users with different powers 3-4,5-6 kW (default setting per user 3 kW) and it is able to manage non-priority loads up to 16A. During normal functioning, if the front key is pushed, it is possible to display with red LEDs, the real time values of the active power (kW), the voltage (V) and the current (A).

RM2P133

Input	Alarm threshold	N° output	Aux
230V - 28A	0...6,5kW	1 (SPST 250Vac-16A)	230Vac

Technical features

TECHNICAL NOTES	NT752
DISPLAY	
Type of display	7 segments, red LED's
Digit height	9mm
ALARMS	
Output	1 SPST contact in voltage
Contacts range	250Vac / 16A
Accuracy	± 1%
INPUT	
Measurement	true root-mean-square value
Voltage rating Un	195...264V
Current rating In	28A
Rated frequency	50Hz
Operating frequency	47...63Hz
Rated burden	≤ 0,5W
AUXILIARY SUPPLY	
Rated value Uaux ac	230V
Tolerance	0,85...1,15Uaux
Rated frequency	50Hz
Working frequency	47...63Hz
Rated burden	≤ 3,2VA - 1,8W
ELECTROMAGNETIC COMPATIBILITY	
Emission tests according to	EN 55022 (class B)
ENVIRONMENTAL CONDITIONS	
Nominal temperature range	-5...40°C
Limit temperature range for storage	-40...70°C
Max. power dissipation	2,3W *
MECHANICAL FEATURES	
Housing	2 modules DIN 43880 (35mm)
Connections	screw terminals
Housing material	self-extinguishing polycarbonate
Protection degree (EN/IEC 60529)	IP52 front frame, IP20 terminals

* for switchboard thermal calculation

Wiring diagrams

