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Differential Relays



Model	Delta D2-b	Delta D2-L	Delta D2-s	Delta D4-s
Codes	RD2A...	RD1A...B	RD3A...B	RD1B....
Ordering codes see page	49	49	49	49
1 alarm	•	•	•	
2 or 1 alarm + pre-alarm 50%				•
2 ranges 0,03 - 0,3A	•			
19 ranges 0,03...30A		•	•	•
Intervention time (t) 0/100ms	•			
Intervention time (t) 0/0,15/0,25/0,5/1/2,5/5s		•	•	•
Electric block t=0 a 30mA		•	•	•
Display I Δn on LED bar			•	•
Filter for harmonics		•	•	•
1 relay SPDT output	•	•	•	
2 relay SPDT output				•
Relay status	Field-selectable negative	Field-selectable positive/negative	Field-selectable positive/negative	Field-selectable positive/negative
Test	manual/automatic permanent	manual/automatic permanent	manual/automatic permanent	manual/automatic permanent
Reset	manual	manual or automatic (3 restart, 1 every 60s)	manual or automatic (3 restart, 1 every 60s)	manual
A.C. auxiliary supply	115V or 230V or 240V or 400V	115V or 230V or 240V or 400V	115V or 230V or 240V or 400V	115V or 230V or 240V or 400V
D.C. auxiliary supply	20...150V	20...150V	20...150V	20...150V
2 wire DEL-DELA connections	•	•	•	•
Dimensions	2 module DIN	2 module DIN	2 module DIN	4 module DIN
Technical note	NT545	NT544	NT597	NT647
Price				
Extra price d.c. auxiliary supply	•	•	•	•



Model	Delta 48-s	Delta 72-s	Delta 72-h	Delta C96	
Codes	RD1D...B	RD1E...B	RD3E....	RD1GF..	RD1GP..
Ordering codes see page	49	49	50	49	49
1 alarm	•		•	•	
1 alarm + 1 pre-alarm 50%		•			•
2 or 1 alarm + pre-alarm 50%			•		
11 ranges 0,03...30A				•	•
19 ranges 0,03...30A	•	•	•		
Intervention time (t) 0/0,15/0,25/0,5/1/2,5/5s	•	•	•		
Intervention time (t) 0,04/0,25/0,5/1/2,5/5s				•	•
Electric block $t=0$ a 30mA	•	•	•		
Display $I\Delta n$ on LED bar		•			
Display $I\Delta n$ on LED display			•		
Filter for harmonics	•	•	•	•	•
1 relay SPDT output	•			•	
1 relay SPDT+SPST output			•		•
2 relays SPDT output		•			
Relay status	Field-selectable positive/negative	Field-selectable positive/negative	Field-selectable positive/negative	Field-selectable positive/negative	Field-selectable negative
Test	manual/automatic permanent	manual/automatic permanent	manual/automatic permanent	manual/automatic permanent	manual/automatic permanent
Reset	manual or automatic (3 restart, attempts 1 every 60s)	manual or automatic (3 restart, attempts 1 every 60s)	manual	manual	manual
A.C. auxiliary supply	115V or 230V or 240V or 400V	115V or 230V or 240V or 400V	115V or 230...240V or 400V	115V or 230V or 240V or 400V	115V or 230V or 240V or 400V
D.C. auxiliary supply	20...150V	20...150V	20...150V	20...60V or 90...150V	20...60V or 90...150V
2 wire DEL-DELA connections	•	•	•	•	•
Dimensions	48x48x102mm	72x72x75mm	72x72x81,8mm	96x96x64,5mm	96x96x64,5mm
Technical note	NT556	NT552	NT649	NT459	NT542
Price					
Extra price d.c. auxiliary supply	•	•	•	•	•

Ring current transformers for residual current device



Model	Del					
Codes	TDGA2	TDGB2	TDGC2	TDGD2	TDGE2	TDGF2
Ordering codes see page	50	50	50	50	50	50
Closed-core ring current transformers	28mm	35mm	80mm	110mm	140mm	210mm
Lowest current $I_{\Delta n}$	0,03A	0,03A	0,03A	0,1A	0,3A	0,3A
Technical note	NT641					
Price						



Model	Del A		Del A
Codes	TDAA2	TDAB2	TDAC2
Ordering codes see page	50	50	50
Open-core ring current transformers	110mm	150mm	300mm
Lowest current $I_{\Delta n}$	0,5A	0,5A	1A
Technical note	NT641		
Price			

Delta D2-L 2 module, 1 threshold residual current device

Ordering codes	Description	Stock	
RD 1 A F 1 2 B	A115V 0,03-30A cl.A	•	
RD 1 A F 1 3 B	A230V 0,03-30A cl.A	•	
RD 1 A F 1 4 B	A240V 0,03-30A cl.A		
RD 1 A F 1 5 B	A400V 0,03-30A cl.A		
RD 1 A F 1 H B	A20-150Vdc 0,03-30A cl.A	•	

Delta D4-s 4 module, 2 threshold residual current device

Ordering codes	Description	Stock	
RD 1 B 2 1 2 B	A115V 0,03-30A cl.A		
RD 1 B 2 1 3 B	A230V 0,03-30A cl.A	•	
RD 1 B 2 1 4 B	A240V 0,03-30A cl.A		
RD 1 B 2 1 5 B	A400V 0,03-30A cl.A		
RD 1 B 2 1 H B	A20-150Vdc 0,03-30A cl.A		

Delta 48-s 48x48mm, 1 threshold residual current device

Ordering codes	Description	Stock	
RD 1 D F 1 2 B	A115V 0,03-30A cl.A	•	
RD 1 D F 1 3 B	A230V 0,03-30A cl.A	•	
RD 1 D F 1 4 B	A240V 0,03-30A cl.A		
RD 1 D F 1 5 B	A400V 0,03-30A cl.A		
RD 1 D F 1 H B	A20-150Vdc 0,03-30A cl.A	•	

Delta 72-s 72x72mm, 2 threshold residual current device

Ordering codes	Description	Stock	
RD 1 E P 1 2 B	A115V 0,03-30A cl.A		
RD 1 E P 1 3 B	A230V 0,03-30A cl.A		
RD 1 E P 1 4 B	A240V 0,03-30A cl.A		
RD 1 E P 1 5 B	A400V 0,03-30A cl.A		
RD 1 E P 1 H B	A20-150Vdc 0,03-30A cl.A		

Delta C96 96x96mm, 1 threshold residual current device

Ordering codes	Description	Stock	
RD 1 G F 1 2	A115V 0,03-30A cl.AC		
RD 1 G F 1 3	A230V 0,03-30A cl.AC	•	
RD 1 G F 1 4	A240V 0,03-30A cl.AC		
RD 1 G F 1 5	A400V 0,03-30A cl.AC		
RD 1 G F 1 M	A20-60Vdc 0,03-30A cl.AC		
RD 1 G F 1 N	A90-150Vdc 0,03-30A cl.AC		

Delta C96 96x96mm, 2 threshold residual current device

Ordering codes	Description	Stock	
RD 1 G P 1 2	A115V 0,03-30A cl.AC		
RD 1 G P 1 3	A230V 0,03-30A cl.AC		
RD 1 G P 1 4	A240V 0,03-30A cl.AC		
RD 1 G P 1 5	A400V 0,03-30A cl.AC		
RD 1 G P 1 M	A20-60Vdc 0,03-30A cl.AC		
RD 1 G P 1 N	A90-150Vdc 0,03-30A cl.AC		

Delta D2-b 2 module, 1 threshold residual current device (2 fixed ranges)

Ordering codes	Description	Stock	
RD 2 A 0 2 2	A115V 0,03/0,3A cl.AC		
RD 2 A 0 2 3	A230V 0,03/0,3A cl.AC	•	
RD 2 A 0 2 4	A240V 0,03/0,3A cl.AC		
RD 2 A 0 2 5	A400V 0,03/0,3A cl.AC		
RD 2 A 0 2 H	A20-150Vdc 0,03/0,3A cl.AC		

Delta D2-s 2 module, 1 threshold residual current device LED bar

Ordering codes	Description	Stock	
RD 3 A F 1 2 B	A115V 0,03-30A cl.A		
RD 3 A F 1 3 B	A230V 0,03-30A cl.A		
RD 3 A F 1 4 B	A240V 0,03-30A cl.A		
RD 3 A F 1 5 B	A400V 0,03-30A cl.A		
RD 3 A F 1 H B	A20-150Vdc 0,03-30A cl.A		

Delta 72-h

72x72mm, 2 thresholds residual current device, with digital indicator

Ordering codes	Description	Stock	
R D 3 E 2 1 2 B	A115V 0,03-30A cl.A		
R D 3 E 2 1 7 B	A230-240V 0,03-30A cl.A	•	
R D 3 E 2 1 8 B	A400-415V 0,03-30A cl.A		
R D 3 E 2 1 H B	A20-150Vdc 0,03-30A cl.A		

Del A

Open-core ring current transformer for residual current device

Ordering codes	Description	Stock	
T D A A 2	Ø. 110mm 2 wires	•	
T D A B 2	Ø. 150mm 2 wires	•	
T D A C 2	Ø. 300mm 2 wires	•	

Del

Closed-core ring current transformer for residual current device

Ordering codes	Description	Stock	
T D G A 2	Ø. 28mm 2 wires	•	
T D G B 2	Ø. 35mm 2 wires	•	
T D G C 2	Ø. 80mm 2 wires	•	
T D G D 2	Ø. 110mm 2 wires	•	
T D G E 2	Ø. 140mm 2 wires	•	
T D G F 2	Ø. 210mm 2 wires	•	



Model	Iso D4	
Codes	RI2A...	RI2C...
Ordering codes see page	53	53
Controlled quantity	insulation towards earth in IT distribution networks	insulation towards earth in d.c. networks
Network voltage	24...400V 50-60Hz	20...60Vdc or 129...158Vdc
Alarm threshold adjusting range	20/40/70/100/150/200k Ω	20/40/70/100/150/200k Ω
Intervention time	<0,6s	<0,6s
Hysteresis	<20%	<20%
Rest	automatic	automatic
Test	manual	manual
Relay output	1 relay SPDT output	1 relay SPDT output
Relay status	field-selectable negative	field-selectable negative
A.C. auxiliary supply	230V	230V
Dimensions	4 module DIN	4 module DIN
Technical note	NT491	NT590
Price		



Model	Iso 96	
Codes	RI2H2...	RI2H3...
Ordering codes see page	53	53
Controlled quantity	insulation towards earth for circuits fed by VT/24V with earth insulated secondary winding	insulation towards earth for circuits fed by VT/230V with earth insulated secondary winding
Network voltage	24V 50-60Hz	230-240V 50-60Hz
Alarm threshold adjusting range	5/10/20/50/100/300kΩ	50/70/100/150/300/500kΩ
Intervention time	≤ 0,5s	≤ 0,5s
Hysteresis	≤ 5%	≤ 5%
Reset	automatic	automatic
Test	permanent manual/automatic	permanent manual/automatic
Relay output	1 SPST contact	1 SPST contact
Relay status	field-selectable negative	field-selectable negative
Signaling and remote control	by external repeater panel ISO Q	by external repeater panel ISO Q
A.C. auxiliary supply	230V	230V
Dimensions	96x96x103mm	96x96x103mm
Technical note	NT493	NT492
Price		



Model	Iso Q	
Codes	ARI1	
Ordering codes see page	53	
Function	remote repeater to suit ISO 96	
Signaling	alarm intervention / LED indication + acoustic warning for CT overload	
Auxiliary supply	fed via ISO 96	
Dimensions	120x81x52mm	
Technical note	NT502	
Price		

Iso Q

Remote repeater panel to suit ISO 96 insulation monitor for hospital usee

Ordering codes	Description	Stock	
A R I 1	REMOTE REPEATER PANEL FOR INSULATION MONITOR RI2H	•	

Iso D4

4 module, insulation monitor in IT distribution network

Ordering codes	Description	Stock	
R I 2 A 1 1 3	A230V 20-200kohm 24-400Vac	•	

Iso D4

4 module, insulation monitor in d.c. network

Ordering codes	Description	Stock	
R I 2 C A 1 3	A230V 20-200kohm 129-158Vdc		
R I 2 C C 1 3	A230V 20-200kohm 20-60Vdc		

Iso 96

96x96mm, insulation monitor for hospital use fed by VT/24V

Ordering codes	Description	Stock	
R I 2 H 2 2 3	A230V 5-300kohm 24V	•	

Iso 96

96x96mm, insulation monitor for hospital use fed by VT/230V

Ordering codes	Description	Stock	
R I 2 H 3 3 3	A230V 50-500kohm 230V	•	

Alternating current and voltage relay



Model	RM2I	RM2U
Codes	RM2I...	RM2U...
Ordering codes see page	57	57
Controlled quantity	single-phase alternating current	single-phase alternating voltage
Rated input	1A or 5A 50-60Hz	100V or 250V or 400V 50-60Hz
Alarm type	1 min. or 1 max.	1 min. or 1 max.
Alarm threshold adjusting range	10...120%In	10...120%Un
Intervention adjusting range	0,1...10s	0,1...10s
Inhibition when turning on adjusting range	0/3/6/9s	0/3/6/9s
Hysteresis adjusting range	5...50% of threshold value	5...50% of threshold value
Reset	automatic or manual	automatic or manual
Relay output	1 SPDT contact	1 SPDT contact
Relay status	field-selectable positive/negative	field-selectable positive/negative
A.C. auxiliary supply	115V or 230V or 240V	115V or 230V or 240V
D.C. auxiliary supply	20...150V	20...150V
Dimensions	2 module DIN	2 module DIN
Technical note	NT548	NT549
Price		
Extra price d.c. auxiliary supply	•	•

Alternating current and voltage relay



Model	RM3I	RM3U
Codes	RM3I...	RM3U...
Ordering codes see page	57	57
Controlled quantity	three-phase alternating current	three-phase alternating voltage
Rated input	5A 50-60Hz	100V or 400V 50-60Hz
Alarm type	1 max. + 1 max. or min. phase failure	1 min. + 1 max. sequence and phase failure
Alarm threshold adjusting range	15...100%In	+/-20%Un
Intervention adjusting range	1...30s or instantaneous	0,5...31,5s
Inhibition when turning on adjusting range	1...60s	
Reset	automatic or manual	automatic
Relay output	2 relays with SPDT contact	1 relay with 2 SPDT contact
Relay status	field-selectable positive	field-selectable positive
A.C. auxiliary supply	230V	self-supplied
D.C. auxiliary supply	24V	
Dimensions	DIN rail 100x75x110mm	DIN rail 70x75x110mm
Technical note	NT631	NT632
Price		
Extra price d.c. auxiliary supply	•	•



Model	RM2S
Codes	RM2S...
Ordering codes see page	57
Controlled quantity	three-phase alternating voltage
Rated input	380...415V 50-60Hz
Alarm type	phase sequence/phase failure/phase asymmetry
Asymmetry threshold adjusting range	5...25%
Intervention adjusting range	0,2...10s
Reset	automatic
Relay output	1 SPDT contact
Relay status	field-selectable positive
Auxiliary supply	self-supplied
Dimensions	2 module DIN
Technical note	NT639
Price	

Direct current and voltage relay



Model	RM3C
Codes	RM3C...
Ordering codes see page	57
Controlled quantity	direct current/voltage
Rated input	$\pm 0,5... \pm 2\text{mA}$ / $\pm 5... \pm 20\text{mA}$ / $4...20\text{mA}$ $\pm 50... \pm 200\text{mV}$ / $\pm 5... \pm 20\text{V}$ / $\pm 50... \pm 200\text{V}$
Display	any quantity directly proportional to input 2000-point red LED display, max. indication -1999....1999
Alarm type	2 min. and/or max.
Alarm threshold adjusting range	-1999...1999 digit
Intervention adjusting range	0...60s
Hysteresis adjusting range	-1999...1999 digit
Reset	automatic
Relay output	2 relays with SPDT contact
Relay status	field-seectable positive/negative
A.C. auxiliary supply	24V or 100V or 115V or 230V or 240V
D.C. auxiliary supply	20...150V or 150...250V
Dimensions	DIN rail 100x75x110mm
Technical note	NT633
Price	
Extra price 24V a.c auxiliary supply	•
Extra price d.c. auxiliary supply	•

RM2I**Single-phase alternating current relay**

Ordering codes	Description	Stock	
RM2 I M 1 1 2	1 THRESHOLD A115V 1A		
RM2 I M 1 1 3	1 THRESHOLD A230V 1A		
RM2 I M 1 1 4	1 THRESHOLD A240V 1A		
RM2 I M 1 1 H	1 THRESHOLD A20-150Vdc 1A		
RM2 I M 1 1 L	1 THRESHOLD A150-250Vdc 1A		
RM2 I M 1 5 2	1 THRESHOLD A115V 5A	•	
RM2 I M 1 5 3	1 THRESHOLD A230V 5A	•	
RM2 I M 1 5 4	1 THRESHOLD A240V 5A		
RM2 I M 1 5 H	1 THRESHOLD A20-150Vdc 5A		
RM2 I M 1 5 L	1 THRESHOLD A150-250Vdc 5A		

RM2S**Failure/sequence/asymmetry alternating voltage relay**

Ordering codes	Description	Stock	
RM2 S 4 1	380-415V 50-60Hz	•	

RM2U**Single-phase alternating voltage relay**

Ordering codes	Description	Stock	
RM2 U M 1 A 2	1 THRESHOLD A115V 100V		
RM2 U M 1 A 3	1 THRESHOLD A230V 100V	•	
RM2 U M 1 A 4	1 THRESHOLD A240V 100V		
RM2 U M 1 A H	1 THRESHOLD A20-150Vdc 100V	•	
RM2 U M 1 A L	1 THRESHOLD A150-250Vdc 100V		
RM2 U M 1 F 2	1 THRESHOLD A115V 250V		
RM2 U M 1 F 3	1 THRESHOLD A230V 250V	•	
RM2 U M 1 F 4	1 THRESHOLD A240V 250V		
RM2 U M 1 F H	1 THRESHOLD A20-150Vdc 250V		
RM2 U M 1 F L	1 THRESHOLD A150-250Vdc 250V		
RM2 U M 1 K 2	1 THRESHOLD A115V 400V		
RM2 U M 1 K 3	1 THRESHOLD A230V 400V		
RM2 U M 1 K 4	1 THRESHOLD A240V 400V		
RM2 U M 1 K H	1 THRESHOLD A20-150Vdc 400V		
RM2 U M 1 K L	1 THRESHOLD A150-250Vdc 400V		

RM3C**Direct voltage/current relay**

Ordering codes	Description	Stock	
RM3 C 2 1 1	2 THRESHOLDS A24V		
RM3 C 2 1 3	2 THRESHOLDS A115V	•	
RM3 C 2 1 6	2 THRESHOLDS A230V	•	
RM3 C 2 1 7	2 THRESHOLDS A240V		
RM3 C 2 1 H	2 THRESHOLDS A20-150Vdc	•	
RM3 C 2 1 L	2 THRESHOLDS A150-250Vdc		

RM3I**Three-phase alternating current relay**

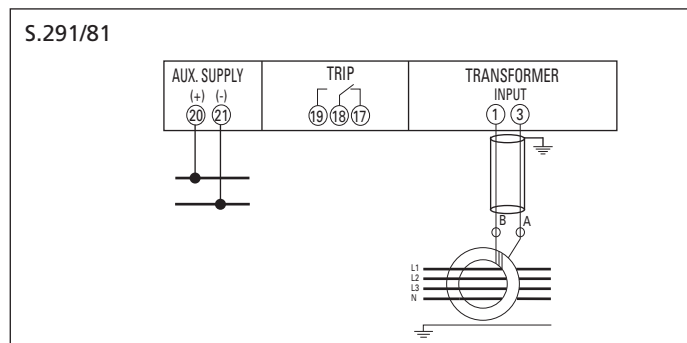
Ordering codes	Description	Stock	
RM3 I T 2 5 3	2 THRESHOLDS A230V 5A	•	
RM3 I T 2 5 F	2 THRESHOLDS A24Vdc 5A	•	

RM3U**Three-phase alternating voltage relay**

Ordering codes	Description	Stock	
RM3 U T 3 A A	2 THRESHOLDS SELF-SUPPLIED 100V	•	
RM3 U T 3 K A	2 THRESHOLDS SELF-SUPPLIED 400V	•	

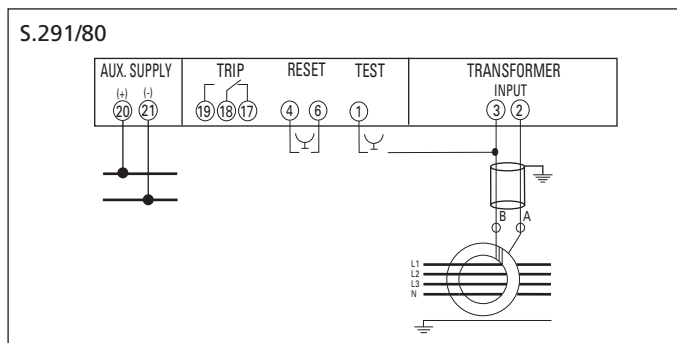
Delta D2-b

RD2A...



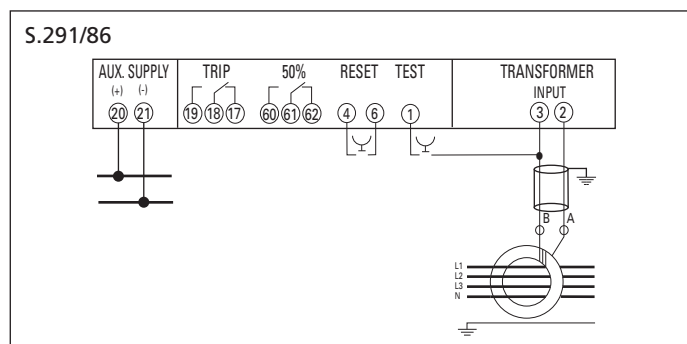
Delta D2-L / Delta D2-s / Delta 48-S

RD1A...B / RD3A...B / RD1D...B



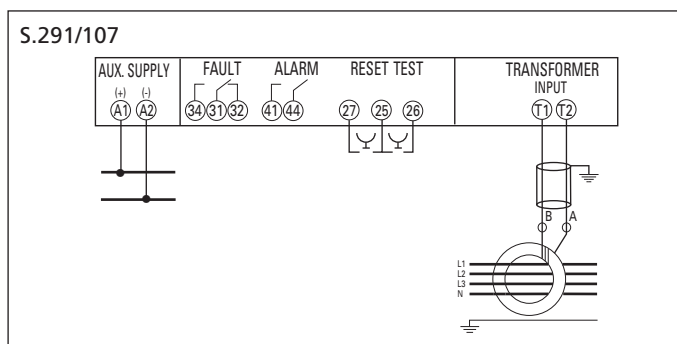
Delta D4-s / Delta 72-s

RD1B... / RD1E...B



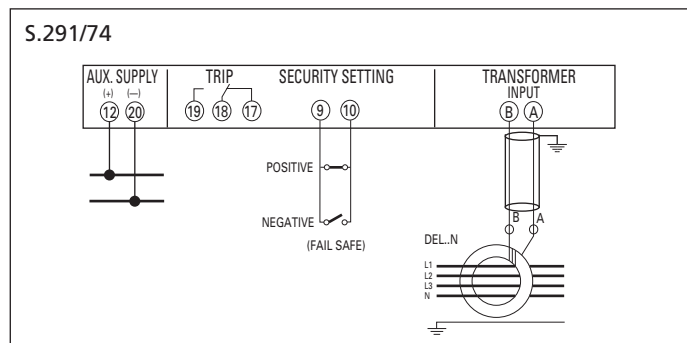
Delta 72-h

RD3E...

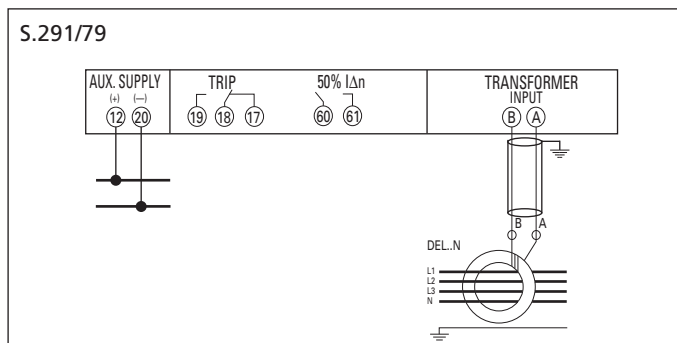


Delta C96

RD1GF...

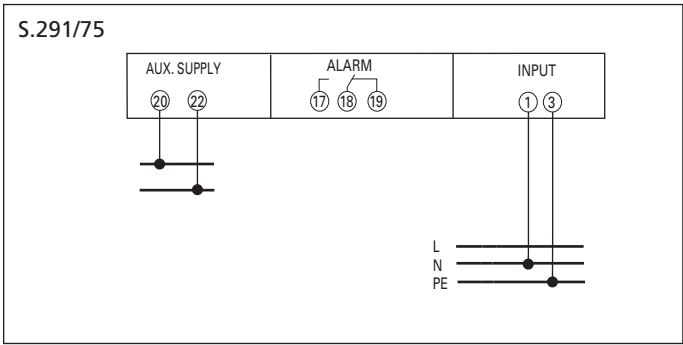


RD1GP...

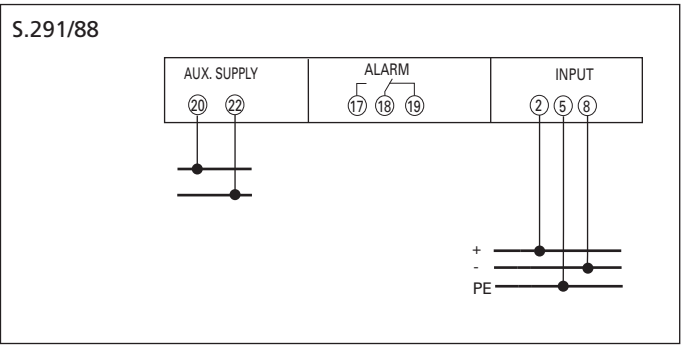


Iso D4

RI2A...

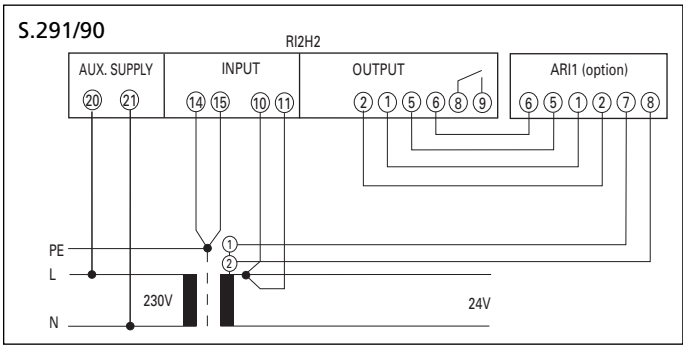


RI2C...

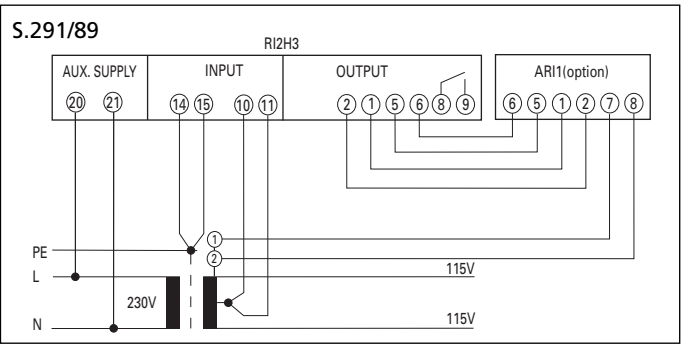


Iso 96

RI2H2...

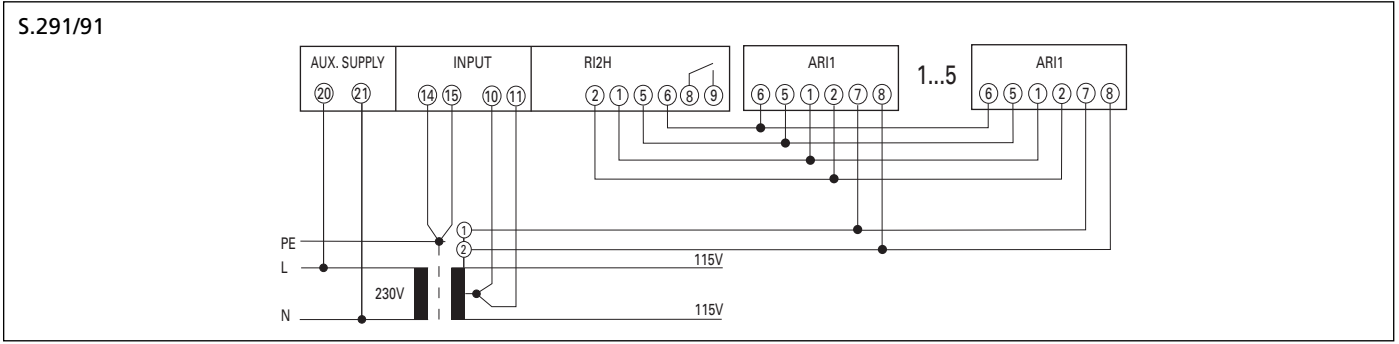


RI2H3...



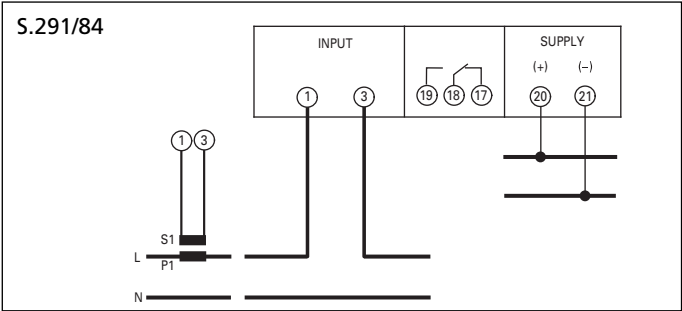
Iso Q

ARI1



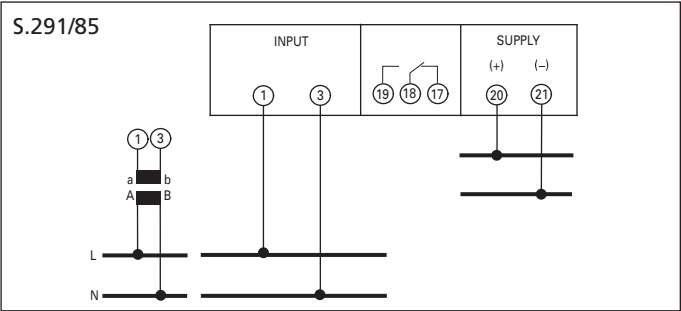
RM2I

RM2I...



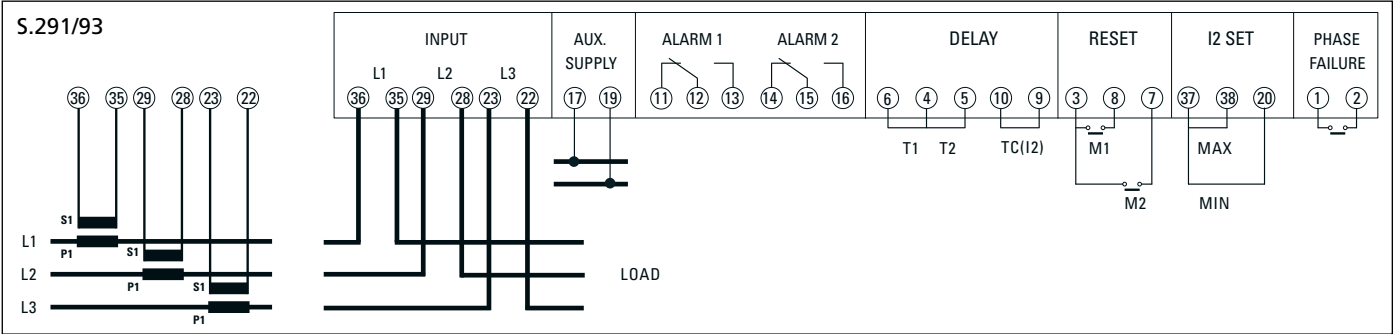
RM2U

RM2U...



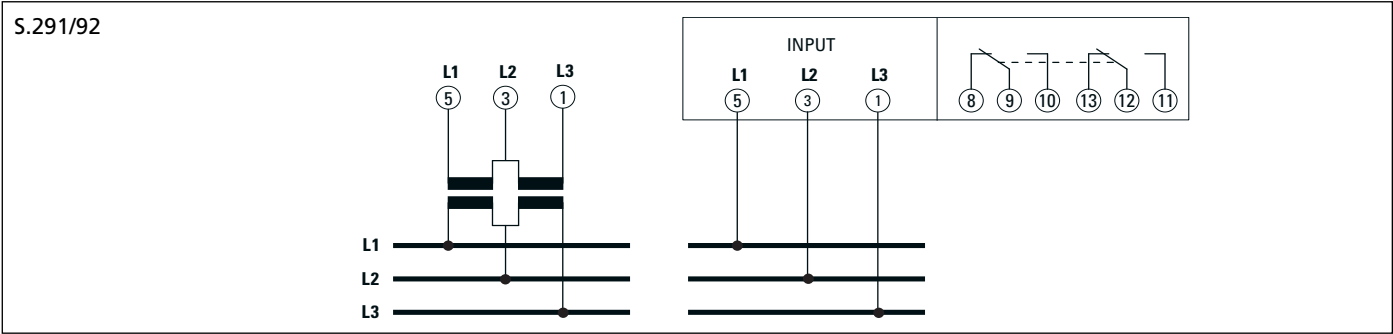
RM3I

RM3I...



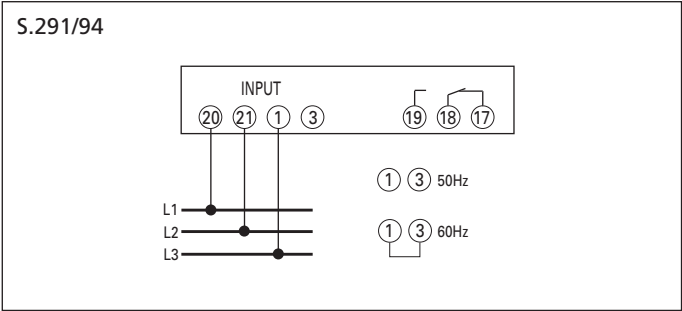
RM3U

RD3U...



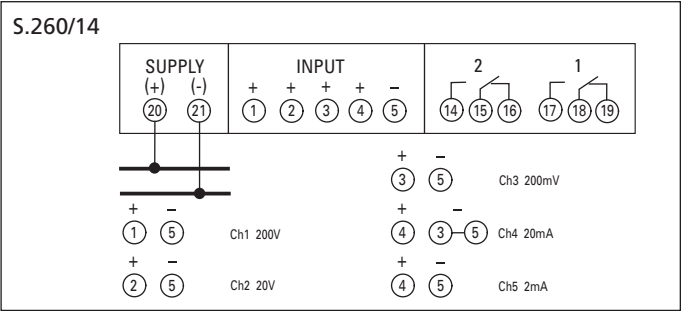
RM2S

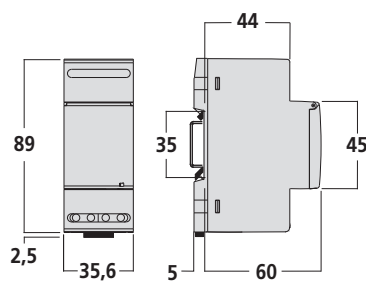
RM2S...



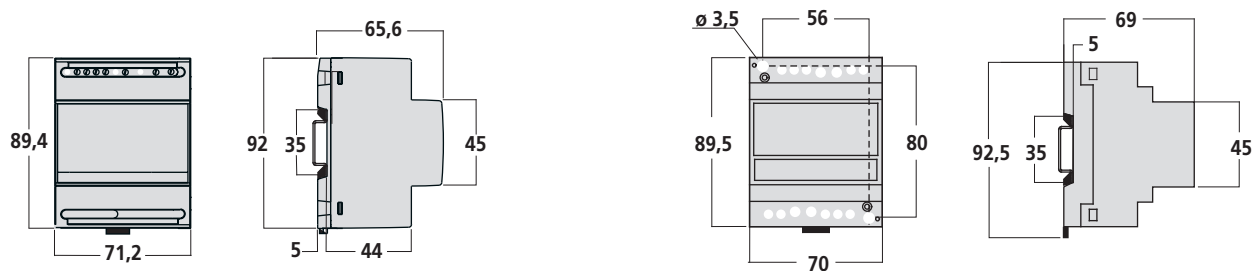
RM3C

RM3C...

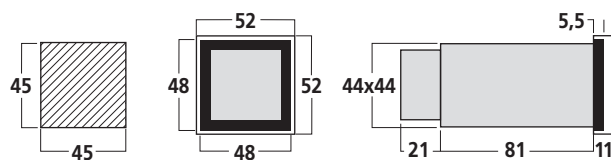


RD2A... / RD1A...B / RD3A...B / RM2I... / RM2U... / RM2S...

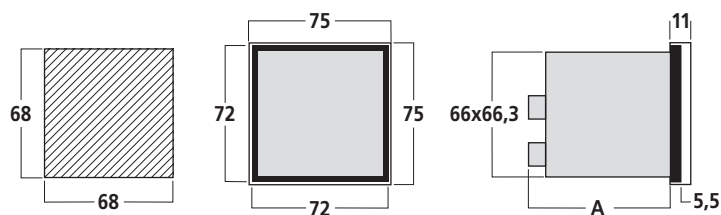
2 Module

RD1B...**RI2A... / RI2C**

4 Module

RD1D...B

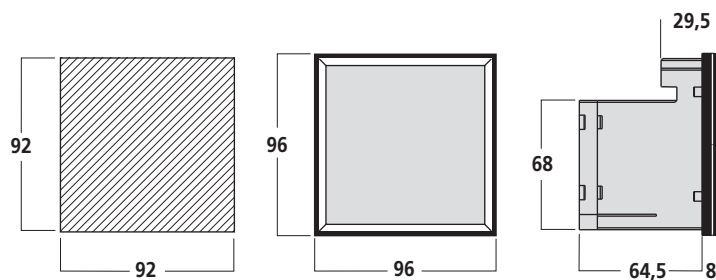
48x48 flush mounting

RD1E...B / RD3E...

72x72 flush mounting

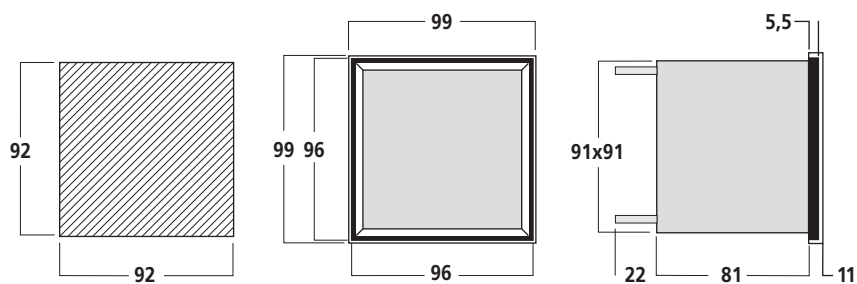
A = 75 RD1E...B
A = 78,2 RD3E...

RD1GF... / RD1GP...



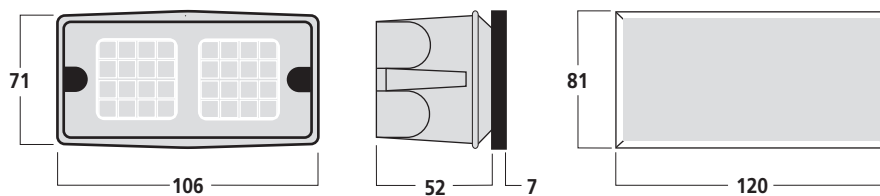
96x96 flush mounting

RI2H2... / RI2H3...



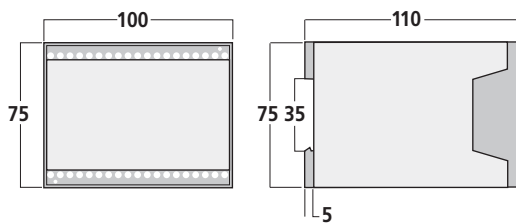
96x96 flush mounting

ARI1



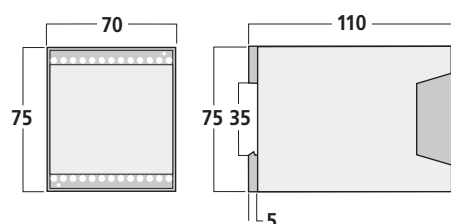
flush mounting

RM3I... / RM3C...



DIN Rail

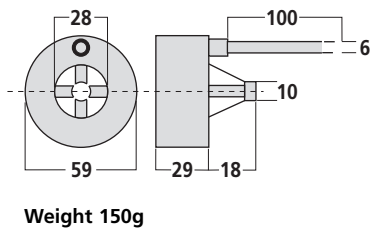
RM3U...



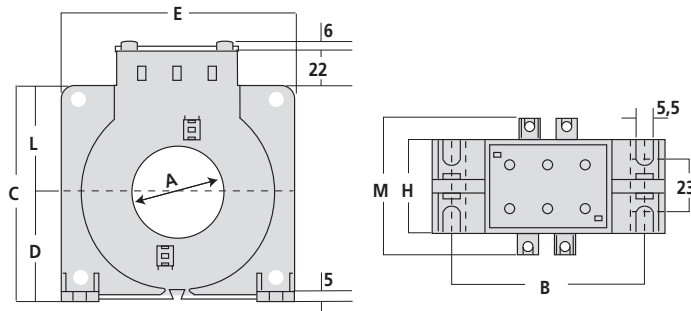
DIN Rail

Del

TDGA2



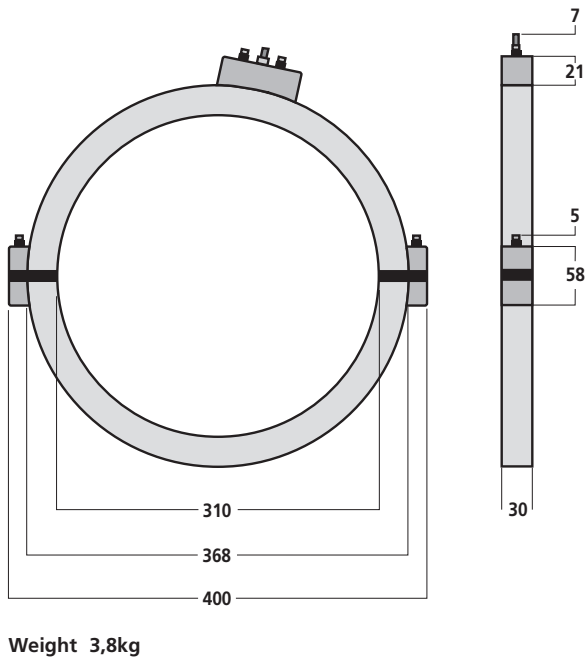
TDG.2



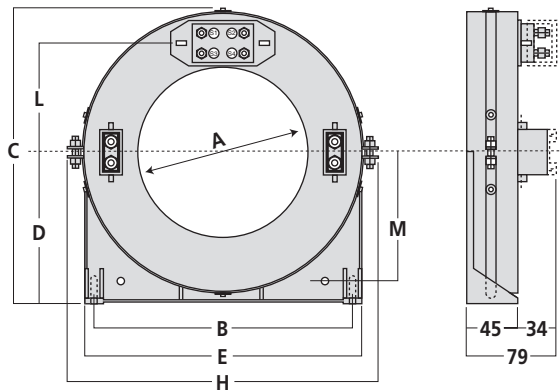
Model	A	B	C	D	E	H	L	M	Weight
TDGB2	35	75	85	42	92	36	43	56	250g
TDGC2	80	108	132	67	125	36	65	56	400g
TDGD2	110	148	170	86	165	36	84	56	560g
TDGE2	140	177	206	104	200	36	102	56	750g
TDGF2	210	270	295	150	290	44	145	64	1280g

Del A

TDAC2



TDAA2 - TDAB2



Model	A	B	C	D	E	H	L	M	Weight
TDAA2	110	185	219	113,5	205	235	75	93,5	2,35Kg
TDAB2	150	225	259	133,5	245	275	95	113,5	2,5Kg