



Monitoring Control / Remote control Relays

Time delay relays are used in service sector and industrial buildings for small automatic control systems: ventilation, heating, animation, roller blind servo controls, escalators, pumps, lighting, signalling, monitoring, etc.


> Time delay relays



iRTA
■ Delays energizing of a load



iRTB
■ Delays de-energizing of a load upon closing of an auxiliary contact (push button)



iRTC
■ Delays de-energizing of a load upon opening of an auxiliary contact (push button)

^ Time delay

iRBN and iRTBT relays can interface automatic control system inputs/ outputs with low-voltage devices.

> Interface relays



iRBN
Low level relay
■ Actuation of low-amperage electronic circuits upon receiving an LV electrical order




iRTBT
Extra low voltage relay
■ Actuation of LV circuits based on an extra low voltage order


^ Control

Control relays monitor electrical parameters and indicate when they are exceeded

> Control relays



iRCP
Phase control
■ Monitors the order and asymmetry of phases and the presence of voltage on the 3 phases of a three-phase circuit (power supply of a motor, etc.)



iRCI
Current control
■ Monitors the current flowing in a circuit and indicates any crossing of the set threshold

^ Monitoring

Monitoring Control / Remote control Relays (cont.)



iRTH
■ Applies a time delay to de-energizing of a load



iRTL
■ Applies a time delay to energizing and de-energizing of a load during different times, repeatedly (flasher)



iRTMF
■ Allows one of the four types of time delay to be selected: A, B, C or H

iRLI and iERL relays are used to relay ON or OFF information to the auxiliary circuits and actuate low-power loads

> Changeover relays



iRLI Changeover
■ Relays ON or OFF information to the auxiliary circuits
■ Actuates low-power loads



iERL extension

^ Relaying and control






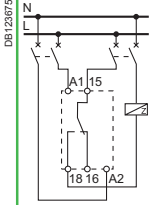
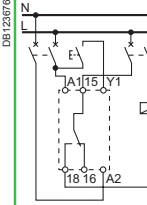
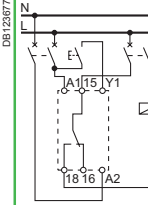
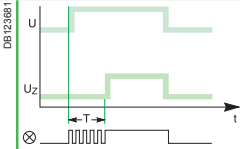
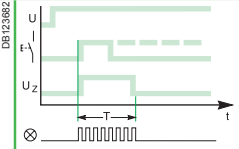
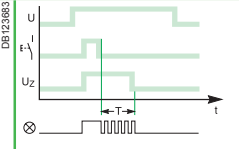
iRCU Voltage control
■ Monitors the potential difference of a circuit and indicates any crossing of the set threshold






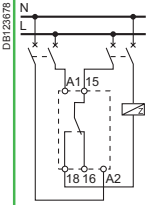
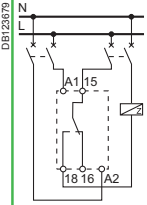
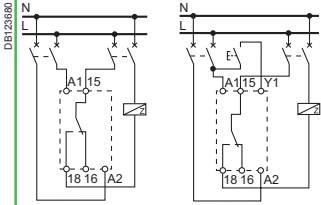
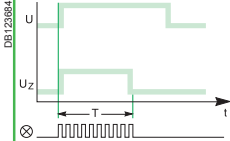
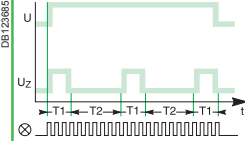
iRCC Compressor control
■ Monitors the compressor power supply and prevents its immediate restarting upon detection of a power cut or voltage dip

Time delay relays



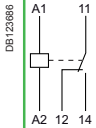
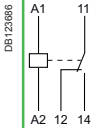
iRTA, iRTB, iRTC, iRTH, iRTL and iRTMF

		Time delay relays		
		iRTA	iRTB	iRTC
Type				
Function		■ Delays energizing of a load	■ Delays de-energizing of a load upon closing of an auxiliary contact (push button)	■ Delays de-energizing of a load upon opening of an auxiliary contact (push button)
Wiring diagrams				
Use		 <ul style="list-style-type: none"> ■ The single time delay cycle starts at switching on of the iRTA relay power supply ■ The load is energized at the end of time delay T 	 <ul style="list-style-type: none"> ■ The single time delay cycle starts at closing of an auxiliary contact (push button) ■ The load is de-energized at the end of time delay T 	 <ul style="list-style-type: none"> ■ The single time delay cycle starts only upon release of an auxiliary contact (push button) ■ The load is de-energized at the end of time delay T
Catalogue numbers		A9E16065	A9E16066	A9E16067
Technical specifications				
Control and power supply voltage (Uc)	V AC	24...240, ±10 %	24...240, ±10 %	24...240, ±10 %
	V DC	24, ±10 %	24, ±10 %	24, ±10 %
Operating frequency	Hz	50/60	50/60	50/60
Time delay range		0.1 s to 100 h	0.1 s to 100 h	0.1 s to 100 h
Precision		±10 % of full scale	±10 % of full scale	±10 % of full scale
Minimum duration of control impulse		100 ms	100 ms	100 ms
Insensitive to brownouts		≤ 20 ms	≤ 20 ms	≤ 20 ms
Max. resetting time per voltage interruption		100 ms	100 ms	100 ms
Accuracy of repetition		±0.5 % at constant parameters	±0.5 % at constant parameters	±0.5 % at constant parameters
Changeover contact (cadmium free)	Mini	Rating 10 mA/5 V DC	Rating 10 mA/5 V DC	Rating 10 mA/5 V DC
	Maxi	Rating 8 A/250 V AC/DC	Rating 8 A/250 V AC/DC	Rating 8 A/250 V AC/DC
Endurance	Mechanical	> 5 x 10 ⁶ switching operations	> 5 x 10 ⁶ switching operations	> 5 x 10 ⁶ switching operations
	Electrical	> 10 ⁵ switching operations (utilization category AC1)	> 10 ⁵ switching operations (utilization category AC1)	> 10 ⁵ switching operations (utilization category AC1)
Display of contact status by green indicator lamp		Flashing during time delay	Flashing during time delay	Flashing during time delay
Degree of protection	Device only	IP20	IP20	IP20
Connection by tunnel terminals	Without ferrule	2 x 2.5 mm ² single-strand	2 x 2.5 mm ² single-strand	2 x 2.5 mm ² single-strand
	With ferrule	2 x 1.5 mm ² multi-strand	2 x 1.5 mm ² multi-strand	2 x 1.5 mm ² multi-strand
Width in 9-mm modules		2	2	2
Operating temperature	°C	-5 ... +55	-5 ... +55	-5 ... +55
Storage temperature	°C	-40 ... +70	-40 ... +70	-40 ... +70

Monitoring Control / Remote control Time delay relays iRTA, iRTB, iRTC, iRTH, iRTL and iRTMF (cont.)



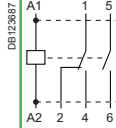
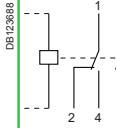
	iRTH	iRTL	iRTMF
			
	<ul style="list-style-type: none"> Applies a time delay to de-energizing of a load 	<ul style="list-style-type: none"> Applies a time delay to energizing and de-energizing of a load during different times, repeatedly (flasher) 	<ul style="list-style-type: none"> Allows one of the four types of time delay to be selected: A, B, C or H
			
			
	<ul style="list-style-type: none"> The single time delay cycle starts at switching on of the iRTH relay power supply The load is de-energized at the end of time delay T 	<ul style="list-style-type: none"> The time delay cycle starts at energizing The load is energized during an adjustable time T1 and then de-energized during an adjustable time T2. This cycle is reproduced until de-energizing of the iRTL relay power supply 	<ul style="list-style-type: none"> Depending on the choice, the iRTMF generates time delay cycles for the iRTA, iRTB, iRTC or iRTH relays
	A9E16068	A9E16069	A9E16070
	24...240, ±10 %	24...240, ±10 %	12...240, ±10 %
	24, ±10 %	24, ±10 %	12...240, ±10 %
	50/60	50/60	50/60
	0.1 s to 100 h	0.1 s to 100 h	0.1 s to 100 h
	±10 % of full scale	±10 % of full scale	±10 % of full scale
	100 ms	100 ms	100 ms
	≤ 20 ms	≤ 20 ms	≤ 20 ms
	100 ms	100 ms	100 ms
	±0.5 % at constant parameters	±0.5 % at constant parameters	±0.5 % at constant parameters
	Rating 10 mA/5 V DC	Rating 10 mA/5 V DC	Rating 10 mA/5 V DC
	Rating 8 A/250 V AC/DC	Rating 8 A/250 V AC/DC	Rating 8 A/250 V AC/DC
	> 5 x 10 ⁸ switching operations	> 5 x 10 ⁸ switching operations	> 5 x 10 ⁸ switching operations
	> 10 ⁵ switching operations (utilization category AC1)	> 10 ⁵ switching operations (utilization category AC1)	> 10 ⁵ switching operations (utilization category AC1)
	Flashing during time delay	Flashing during time delay	Flashing during time delay
	IP20	IP20	IP20
	2 x 2.5 mm ² single-strand	2 x 2.5 mm ² single-strand	2 x 2.5 mm ² single-strand
	2 x 1.5 mm ² multi-strand	2 x 1.5 mm ² multi-strand	2 x 1.5 mm ² multi-strand
	2	2	2
	-5 ... +55	-5 ... +55	-5 ... +55
	-40 ... +70	-40 ... +70	-40 ... +70

Monitoring Control / Remote control Interface relays iRBN, iRTBT



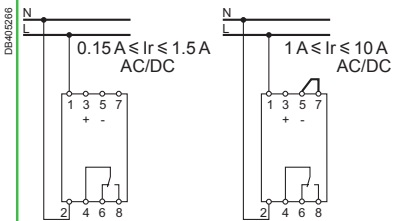
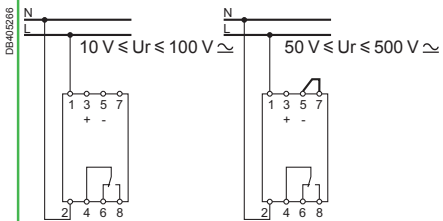



Interface relays			
	iRBN	iRTBT	
Type	Low level	Extra low voltage	
	 <p>PE107144-35</p>	 <p>PE107164-35</p>	
Standard	IEC/EN 61810-1	IEC/EN 61810-1	
Function	<ul style="list-style-type: none"> ■ Actuation of low-amperage electronic circuits upon receiving an LV electrical order 	<ul style="list-style-type: none"> ■ Actuation of LV circuits based on an extra low voltage order 	
Wiring diagrams	 <p>DE123886</p>	 <p>DE123886</p>	
Use	<ul style="list-style-type: none"> ■ Inputs of programmable logic controllers, of measuring or supervision circuits, etc. 	<ul style="list-style-type: none"> ■ ELV orders can be issued by a programmable logic controller (24 V DC static outputs), a central fire detection unit, a regulation system, etc. 	
Catalogue numbers	A9A15393	A9A15416	
Technical specifications			
Input control voltage (Uc)	V AC	230, ±10 %	12...24, -15 to +10 %
	V DC	-	12...24, ±20 %
Output contact rating	Mini	5 mA/5 V DC (DC12) 5 mA/5 V AC	10 mA/10 V DC (DC12) 10 mA/10 V AC
	Maxi	1 A/24 V DC (DC12) 5 A/250 V AC	1 A/24 V DC (DC12) 5 A/250 V AC
Operating frequency	Hz	50/60	0...60
Strengthened insulation between ELV/LV circuits		4 kV	4 kV
Consumption	At inrush	5 VA	0.22 W
	At holding	2.5 VA	0.11 W
Endurance	Electrical	100,000 switching operations	100,000 switching operations
Display of voltage presence on the control circuit		By green indicator lamp	By green indicator lamp
Degree of protection	Device only	IP20	IP20
Connection by tunnel terminals		0.5 x 6 mm ²	0.5 x 6 mm ²
Width in 9-mm modules		2	2
Operating temperature	°C	-5 ... +55	-5 ... +55
Storage temperature	°C	-40 ... +70	-40 ... +70

iRLI changeover and iERL extension relays

Changeover and extension relays



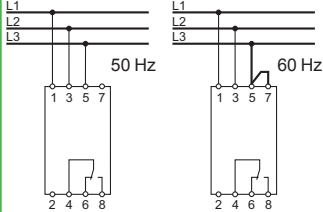
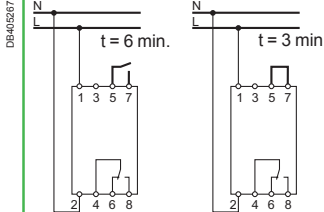




	iRLI				iERL				
Type	Changeover relay				Extension for RLI				
									
Standard	IEC/EN 61810-1 and NF C 45-250				IEC/EN 61810-1 and NF C 45-250				
Function	<ul style="list-style-type: none"> Relaying of ON or OFF information to the auxiliary circuits and actuation of low-power loads 				<ul style="list-style-type: none"> Extension allowing additional contacts to be added to the iRLI changeover relays 				
Wiring diagrams									
Use	<ul style="list-style-type: none"> The iRLI relay contains 1 changeover contact (O-C) and 1 normally open contact (N/O) 				<ul style="list-style-type: none"> The iERL extension (max. 3 iERLs for 1 iRLI) contains 1 changeover contact (O-C) and 1 normally open contact (N/O) Can be mounted without any tool and without additional cabling using a yellow clip which performs mechanical assembly and electrical connection between the coils 				
Catalogue numbers	A9E15535	A9E15536	A9E15537	A9E15538	A9E15539	A9E15540	A9E15541	A9E15542	
Technical specifications									
Control voltage (Uc)	V AC	230...240	48	24	12	230...240	48	24	12
Voltage rating (Ue)	V AC	230							
Insulation voltage (Ui)	V AC	250							
Rating (In)	A	10, cos φ = 1							
Operating frequency	Hz	50/60							
Inrush and holding power		4 VA				iRLI + iERL : 8 VA			
Endurance	Electrical	100,000 cycles AC21 (cos φ = 1)							
Direct front face control	Power	By push button							
	Coil	By selector switch (disconnection)							
Position indicator		Mechanical indicator							
Marking		Clip-on markers on the front panel							
Degree of protection	Device only	IP20							
Connection by tunnel terminals		0.5 x 6 mm ²				0.5 x 6 mm ²			
Width in 9-mm modules		2							
Operating temperature	°C	-5 ... +55							
Storage temperature	°C	-40 ... +70							

iRCP phase control, iRCI current control, iRCU voltage control and iRCC compressor control relays

Control relays		
	iRCI	iRCU
Type	Current control	Voltage control
		
Function	<ul style="list-style-type: none"> Monitors the current (I_r) flowing in an AC or DC circuit and indicates any crossing of the set threshold 	<ul style="list-style-type: none"> Monitors the voltage variation (U_r) of an AC or DC circuit and indicates any crossing of the set threshold
Wiring diagrams		
Catalogue numbers	A9E21181	A9E21182
Common technical specifications		
Supply voltage (U_c)	V AC	230, -15 % à +10 %
Frequency	Hz	50/60
Parameter setting		<ul style="list-style-type: none"> On the front panel, by direct scale, using a screwdriver
Precision of display		±10 % of full scale
Output by changeover contact		8 A under 250 V AC ($\cos \varphi = 1$)
Indications by LED	Green	Voltage presence
	Red	Fault
Consumption	VA	3
Dissipated power	W	2
Degree of protection	Device only	IP20
Connection by tunnel terminals	Rigid cable	1.5 x 6 mm ²
Width in 9-mm modules		4
Operating temperature	°C	-5 ... +55
Storage temperature	°C	-40 ... +80
Particular technical specifications		
	Threshold adjustable from 10 % to 100 % of I_r	Threshold adjustable from 10 % to 100 % of U_r
	Hysteresis adjustable from 5 % to 50 % of I_r	Hysteresis adjustable from 5 % to 50 % of U_r
	Monitoring of overcurrent and undercurrent (selection by selector switch)	
	Fail-safe contact	
	De-energized	
	Energized with fault	
	Energized without fault	
	Time delay on crossing threshold: 0.1 s to 10 s	
	Possibility of memorizing fault with resetting	
	Compatible with current transformers (CTs) of ratio X/5	<ul style="list-style-type: none"> Automatic recognition of AC voltage or DC voltage. 2 measuring ranges selected by cabling: <ul style="list-style-type: none"> 10 V to 50 V 50 V to 500 V
	<ul style="list-style-type: none"> Automatic recognition of alternating or direct current. 2 measuring ranges selected by cabling: <ul style="list-style-type: none"> 0.15 A to 1.5 A 1 A to 10 A 	

Monitoring Control / Remote control

iRCP phase control, iRCI current control, iRCU voltage control and iRCC compressor control relays (cont.)

iRCP	iRCC
Phase control	Compressor control
<p style="font-size: small;">PB107124-35</p> 	<p style="font-size: small;">PB107127-35</p> 
<ul style="list-style-type: none"> Monitors phases and the presence of voltage on the 3 phases of a three-phase circuit (power supply of a motor, etc.). It indicates any phase loss or inversion 	<ul style="list-style-type: none"> Monitors the compressor's power supply and prevents its immediate restarting upon detection of a power cut or voltage dip
<p style="font-size: small;">DB40526E</p> 	<p style="font-size: small;">DB40526T</p> 
A9E21180	A9E21183
400, ±15 %	230, -15 % à +10 %
50/60	
<ul style="list-style-type: none"> On the front panel, by direct scale, using a screwdriver 	
±10 % of full scale	
8 A under 250 V AC (cos φ = 1)	
Voltage presence	
Fault	
3	
3 (total on the 3 phases)	2
IP20	
1.5 x 6 mm ²	
4	
-5 ... +55	
-40 ... +80	
Setting of phase asymmetry threshold: 5 % to 25 % of 400 V	Threshold setting: ±5 % to ±15 % of 230 V
Hysteresis: fixed, 5 % of asymmetry threshold	
Monitoring of direction of phase rotation	
Monitoring of presence of the 3 phases	
Fail-safe contact	Fail-safe contact
De-energized 	De-energized 
Energized with fault	Energized with fault
Energized without fault 	Energized without fault 
Time delay on tripping: 0.3 s	Time delay on overshoot: 3 or 6 minutes (selection by cabling)

Technical data

Weight (g)

Relays	
Type	Weight (g)
iRTA, iRTB, iRTC, iRTH, iRBN	65
iRTL	66
iRTMF	68
iRTBT	63
iRLI, iERL	112
iRCP, iRCC	210
iRCI, iRCU	215

Dimensions (mm)

