Product overview

Time control technology

Compact monofunctional and multifunctional timers

DOLD

Our experience. Your safety.

Compact timers
in overall widths from 17.5 mm

All from one source - The MINITIMER and MULTITIMER product range includes timers acc. EN 61812-1:

- Multifunction relay
- Timer on-delay, off-delay
- Flasher relay
- Cycle timer
- On make and on break fleeting action relay
- Pulse shaper / pulse generator
- Star-delta timer

Dold timers offer an easy way to realize timing functions in systems without much programming effort. They are available in electro-pneumatic, electromechanic and electronic design.

The configuration of the timing functions and time ranges is achieved easily and quickly by the rotary switches or LCD display at the front. Due to their compact overall width from 17.5 mm our timers are also suitable for minimum space conditions in control or distribution cabinets and are available with fixed or detachable spring-loaded and screw terminals.

Areas of application

- Advance switching (pre-heating)
- Delay times in switching systems (escalators, elevators)
- Delayed switching to emergency generator / lighting
- Lighting controls (staircase lighting)
- Follow-up switching (fans)
- Control of fault displays and position lights
- Baking ovens
- Traffic light controls
- Dosing systems
- Rinsing devices
- Automatic start-up controllers for motors

Multifunction timers (Multi)

Multifunction timers combine several timing functions in one device. The timing functions can be set easily and directly at the device front, thus allowing to be used in a great variety of application areas.

Multi

MK Series
Control cabinet design

- Compact design
- Selectable connection technology
- Slim design 22.5 mm
- Pluggable terminal blocks
- Display / LED display

Reliable timers for plant and building automation

Time control technology - functions at a glance:

AV

On-delay
It starts when the power supply is applied. Upon expiry of the set delay time the relay switches to operating position.

RV

Off-delay
When the power supply is applied, the relay immediately switches to operating position. When the power supply is interrupted, the off-delay time begins. Upon expiry of the delay time the relay switches to rest position. There is a distinction between off-delayed timers with or without control signal.

BI

Flasher relay pulse first
When the power supply or control signal is applied, the relay periodically switches from operating position to rest position (pulse first).

BP

Flasher relay pause first
When the power supply or control signal is applied, the relay periodically switches from rest position to operating position (pause first).

EW

On make fleeting action relay
With on make fleeting relays the relay immediately switches to operating position when the power supply is applied. Upon expiry of the set pulse time the relay switches to rest position.

AW

On break fleeting action relay
With on break fleeting action relays voltage is applied to the control input via the control contact. When the control contact is opened, the relay immediately switches to operating position. Upon expiry of the set pulse time the relay switches to rest position.

TI/TP

Cycle timer
Function as with flasher relay, but pulse time and break time may be different and can therefore be separately set.

Y△

Star-delta timer (Y△)
When the power supply is applied, the star contact is closed. Upon expiry of the set pulse time the star contact opens, and after a short break (contact transit time 35 to 100 ms) the delta contact closes.

IE

Pulse generator
The input pulse is transformed to an output pulse with a defined length (set time).

IF

Pulse shaper
When the power supply is applied, the relay switches to operating position for the set time. Further controls are only evaluated upon expiry of the set time.

BC Series
Control cabinet design
- Slim design 22.5 mm
- Rotary switch / LED display
- Box terminal with wire protection
- Screw and top-hat rail installation

IK Series
Distributor design
- Minimum design 17.5 mm
- Depth acc. DIN 43 880
- Also available in control cabinet design
- LED display

RK Series
Distributor design
- Compact design
- Selectable connection technology
- Minimum design 17.5 mm
- LED display

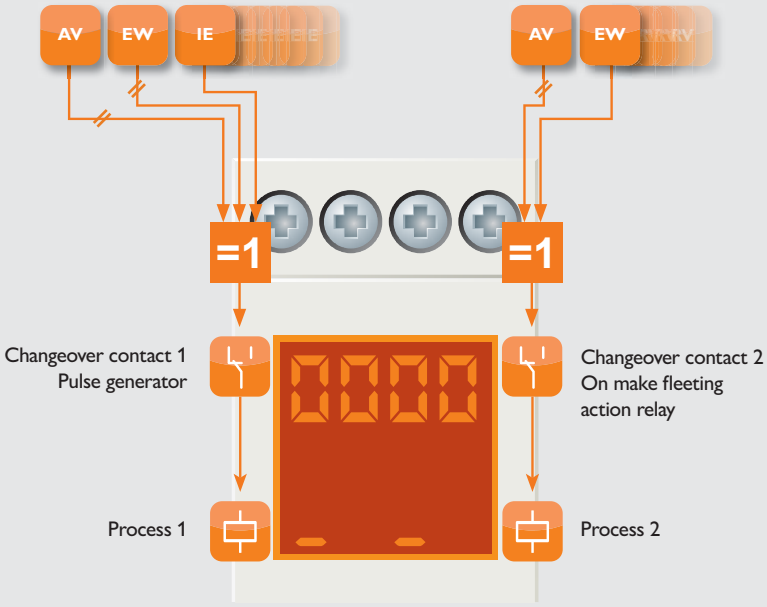
UG Series
Control cabinet design
- Safe timing functions
- Compact design
- Selectable connection technology
- Slim design 22.5 mm
- Pluggable terminal blocks

MK Series

MULTITIMER
Multifunction relay, digital MK 7830N

The MK 7830N is the ideal timer module for precise time-dependent control tasks in the industry. Its highlight: the multifunction relay equipped with a display features two output relays. Each of them can be assigned a separate timing function in the range between 20 ms and 9999 h. Due to the common cycle time the time sequences can be reliably attuned to each other.

- More space in the control cabinet due to 2 multifunction relays in one housing
- Precise timing functions due to digital setting and quartz-controlled time sequences
- Slim design of 22.5 mm



Multifunction relay, digital MK 7830N - Two devices in one

Timing Functions MK Series:

	Device type	MK 7830N	MK 7850N/200	MK 9906N	MK 9962N	MK 7873N	MK 7854N	MK 7851N	MK 7853N
Multi	Multifunction relay	•	•						
AV	On-delay	•	•	•					
RV	Off-delay with control signal	•	•		•				
RV	Off-delay without control signal					•			
AV/RV	On-/off-delay	•	•						
TI/TP	Cycle timer	•	•				•		
BI/BP	Flasher relay	•	•					•	
EW	On make fleeting action relay	•	•						
AW	On break fleeting action relay	•	•						
EW AW	On make / on break fleeting action relay	•	•						
IE	Pulse generator	•	•						
IF	Pulse shaper	•	•						
Y△	Star-delta relay								•

MINITIMER
Timer, on-delay MK 9906N

The MK 9906N is a timer with on-delay. Up to 8 different time ranges can be conveniently set by rotary switch. It starts as soon as the power supply is applied. Upon expiry of the set delay time the relay switches to operating position.

- 8 time ranges within one device
- 2 changeover contacts, one of them programmable as instantaneous contact
- Wide nominal voltage range AC/DC 12 ... 240 V
- Optional connection for remote potentiometer

Timer, on-delay MK 9906N

Technical Data* MK Series:

								
Device type	**MK 7830N**	**MK 7850N/200**	**MK 9906N**	**MK 9962N**	**MK 7873N**	**MK 7854N**	**MK 7851N**	**MK 7853N**
Function	**Multifunction relay, digital**	**Multifunction relay**	**Timer, on-delay**	**Timer, off-delay**	**Timer, off-delay**	**Cycle timer**	**Flasher relay**	**Star-delta timer**
Special features	digital setting	8 timing functions settable + remote potentiometer	connection of remote potentiometer optional	with control signal	without control signal	connection of remote potentiometer optional	8 time ranges settable + remote potentiometer	contact transit time 35 or 100 ms
Time ranges	0,02 s ... 9999 h	0,02 s ... 300 h	0,05 s ... 300 h	0,05 s ... 300 h	0,05 s ... 300 s 1,5 min ... 30 min	0,05 s ... 300 h	0,05 s ... 300 h	10 s, 30 s, 60 s
Nominal voltage	AC/DC 24 + AC 230 V	AC/DC 12 ... 240 V	AC/DC 12 ... 240 V	AC/DC 12 ... 240 V	AC/DC 24 ... 240 V	AC/DC 12 ... 240 V	AC/DC 12 ... 240 V	AC/DC 24 V AC 220 ... 240 V
Contact assembly max.	2 C/O	2 C/O	2 C/O	2 C/O	2 C/O	2 C/O	2 C/O	1 ew, 1 NO
Thermal current I_{th} max.	2 x 4 A	2 x 4 A	2 x 4 A	2 x 4 A	5 A	2 x 4 A	2 x 4 A	5 A
Temperature range	0 ... +55 °C	-40 ... +60 °C	-40 ... +60 °C	-40 ... +60 °C	-20 ... +60 °C	-40 ... +60 °C	-40 ... +60 °C	-40 ... +60 °C
Connection technology	S/PS/PC							
Enclosure	Control cabinet							
Overall width	22,5 mm							

* Specifications, approvals, etc. see data sheet

S = Screw terminals
PS= removable screw terminals
PC= removable cage clamp terminals

NO = normally open contact; NC = normally closed contact
C/O = changeover contact; ew = contact fleeting on make

BC Series

MULTITIMER
Multifunction relay BC 7935N

The BC 7935 is ideally suited for time-dependent control tasks in the industry. Furthermore, the multifunction relay is ideally suited for service and maintenance works as it can replace timers with different functions and time ranges. The quick and easy configuration allows for optimum adjustment to the application.

- 8 timing functions selectable by rotary switch
- 10 time ranges up to 300 h selectable by rotary switch
- Time addition via control input B1 with functions AV, EW, IE, BE
- Simplified warehousing

Multifunction relay BC 7935N from the MULTITIMER series

Timing Functions BC Series:

	Device type	BC 7935N	BC 7930N	BC 7934N	BC 7933N	BC 7939N	BC 7938N	BC 7937N	BC 7932N	BC 7931N	BC 7936N
Multi	Multifunction relay	•									
AV	On-delay	•	•	•							
RV	Off-delay with control signal	•			•	•					
RV	Off-delay without control signal						•				
AV/RV	On-/off-delay	•									
TI/TP	Cycle timer							•			
BI/BP	Flasher relay	•							•		
EW	On make fleeting action relay	•								•	
AW	On break fleeting action relay	•									
EW AW	On make / on break fleeting action relay										
IE	Pulse generator	•									
IF	Pulse shaper	•									
Y△	Star-delta relay										•

MINITIMER
Timer, off-delay BC 7933N

The BC 7933N is an off-delayed timer with control signal. As soon as the control signal is applied the relay immediately switches to operating position. If the control signal is interrupted, the off-delay time begins. Upon expiry of the delay time the relay switches to rest position.

- Wide voltage range AC 110 ... 240 V or AC 42 ... 48 V / DC 48 V, AC/DC 24 V
- Control input B1 controllable with nominal voltage; no potential-free control contact required

Timer, off-delay BC 7933N from the MINITIMER series

RV

Technical Data* BC Series:

										
Device type	**BC 7935N**	**BC 7930N**	**BC 7934N**	**BC 7933N**	**BC 7939N**	**BC 7938N**	**BC 7937N**	**BC 7932N**	**BC 7931N**	**BC 7936N**
Function	**Multifunc-tion relay**	**Timer, on-delay**	**Timer, on-delay**	**Timer, off-delay**	**Timer, off-delay**	**Timer, off-delay**	**Cycle timer**	**Flasher relay**	**On make fleeting action relay**	**Star-delta timer**
Special features	8 timing functions settable	2-voltage version	8 switchable time ranges	with control signal	with control signal	without con-trol signal	flashing upon lapse ot time	settable flashing frequency	multi-voltage version	contact transit time 35, 80, 100 ms
Time ranges	0,05 s - 300 h	0,05 s - 10 h	0,05 s - 16 h	0,05 s - 10 h	0,05 s - 16 h	0,05 s - 300 s	0,05 s - 300 h	0,05 s - 100 s	0,05 s - 100 s	10 s, 30 s, 60 s, 100 s
Nominal voltage AC		•	•	•	•			•	•	•
Nominal voltage DC	•			•			•		•	
Nominal voltage AC/DC	•	•	•	•	•	•	•	•	•	•
Contact assembly max.	1 C/O	1 C/O	1 C/O	1 C/O	1 C/O	1 C/O	1 C/O	1 C/O	1 C/O	1 ew, 1 NO
Thermal current I_{th} max.	4 A	4 A	4 A	4 A	4 A	5 A	4 A	4 A	4 A	4 A
Temperature range	0 ... +60 °C	-20 ... +60 °C	-20 ... +60 °C	-20 ... +60 °C	-20 ... +60 °C	-20 ... +60 °C	0 ... +60 °C	-20 ... +60 °C	-20 ... +60 °C	-20 ... +60 °C
Connection technology	S									
Enclosure	Control cabinet									
Overall width	22,5 mm									

* Specifications, approvals, etc. see data sheet

S = Screw terminals

NO = normally open contact; NC = normally closed contact
C/O = changeover contact; ew = contact fleeting on make

IK Series

MULTITIMER
Multifunction relay IK 7817N

The multifunction relay IK 7817N in the compact distributor housing with an overall width of just 17.5 mm is ideally suited for time-dependent control tasks in the industry and building automation. The wide nominal voltage range of AC/DC 12 - 240 V, 8 time functions to be set by rotary switch, and the possible connection to a remote potentiometer make the timer a universally applicable device.

- 8 timing functions selectable by rotary switch
- 8 time ranges up to 300 h selectable by rotary switch
- With time interruption / time addition
- Controllable by two-wire proximity switches
- Wide nominal voltage range AC/DC 12 - 240 V

Multifunction relay IK 7817N
from the MULTITIMER series

Timing Functions IK Series:

										
	Device type	**IK 7817N**	**IK 7813 IK 7814 IK 7825**	**IK 8808 IK 9906**	**IK 7823 IK 9962**	**IK 7819**	**IK 7854**	**IK 7816 IK 7827**	**IK 7815 IK 7826**	**IK 7820**
Multi	Multifunction relay	•								
AV	On-delay	•	•	•						
RV	Off-delay with control signal	•			•					
RV	Off-delay without control signal					•				
AV/RV	On-/off-delay	•								
TI/TP	Cycle timer	•					•			
BI/BP	Flasher relay	•						•		
EW	On make fleeting action relay	•							•	
AW	On break fleeting action relay	•								•
EW AW	On make / on break fleeting action relay	•								
IE	Pulse generator	•								
IF	Pulse shaper	•								
Y△	Star-delta relay									

Technical Data* IK Series:

					
Device type	**IK 7825**	**IK 7823**	**IK 7827**	**IK 7826**	**IK 7820**
Function	**Timer, on-delay**	**Timer, off-delay**	**Flasher relay**	**On make fleeting action relay**	**On break fleeting action relay**
Special features	button for manual activation	with control signal	beginning with pulse	button for manual activation	control input with voltage
Time ranges	0,05 s - 60 min	0,25 s - 640 min	0,05 s - 100 s	0,05 s - 1 s	0,25 s - 640 min
Nominal voltage AC	•	•		•	•
Nominal voltage DC	•		•	•	
Nominal voltage AC/DC		•	•		•
Contact assembly max.	1 C/O; 2 C/O	1 C/O	1 C/O	1 C/O	1 C/O
Thermal current I_{th} max.	16 A	10 A	16 A	16 A	10 A
Temperature range	-20 ... +45 °C	-20 ... +60 °C	-20 ... +45 °C	-20 ... +45 °C	-20 ... +60 °C

MULTITIMER
Multifunction relay SN 7920

Multi

- 8 timing functions selectable by rotary switch
- Switching of high DC loads with mechanical forcibly guided contacts acc. EN 61810-3
- Nominal voltage range AC/DC 24 - 230 V
- Suitable for control cabinet installation

Technical Data* IK Series:

										
Device type	**IK 7817N**	**IK 7813**	**IK 7814**	**IK 8808**	**IK 9906**	**IK 9962**	**IK 7819**	**IK 7854**	**IK 7816**	**IK 7815**
Function	**Multifunc-tion relay**	**Timer, on-delay**	**Timer, on-delay**	**Timer, on-delay**	**Timer, on-delay**	**Timer, off-delay**	**Timer, off-delay**	**Cycle timer**	**Flasher relay**	**On make fleeting action relay**
Special features	8 timing func-tions settable + remote potentiometer	LED display for contact position	4 time ranges settable	thyristor output	2-wire proxi-mity switch + remote po-tentiometer	with control signal + remote po-tentiometer	without control signal	connection of remote potentiome-ter optional	beginning with pulse	LED display for contact position
Time ranges	0,02 s - 300 h	0,1 s - 60 min	0,25 s - 640 min	0,06 s - 160 min	0,05 s - 300 h	0,05 s - 300 h	0,05 s - 300 s	0,05 s - 300 h	0,1 s - 60 min	0,1 s - 60 min
Nominal voltage AC		•	•						•	•
Nominal voltage DC										
Nominal voltage AC/DC	•	•	•	•	•	•	•	•	•	•
Contact assembly max.	1 C/O	1 C/O	1 C/O	1 ty	1 C/O	1 C/O	1 C/O	1 C/O	1 C/O	1 C/O
Thermal current I_{th} max.	4 A	10 A	10 A	0,8 A	4 A	4 A	5 A	4 A	10 A	10 A
Temperature range	-40 ... +60 °C	-20 ... +60 °C	- 20 ... +60 °C	-20 ... +60 °C	-40 ... +60 °C	-40 ... +60 °C	-20 ... +60 °C	-40 ... +60 °C	-20 ... +60 °C	-20 ... +60 °C
Connection technology	S									
Enclosure	Installation distributor									
Overall width	17,5 mm									

* Specifications, approvals, etc. see data sheet

S = Screw terminals C/O = changeover contact; ty = Thyristor

RK Series

MULTITIMER
Multifunction relay RK 7817

The multifunction relay RK 7817 in the compact distributor enclosure meets the requirements to modern time control devices. It completes the RK timer series that already covers the most common timing functions, time ranges and voltage versions by monofunctional variants.

- 8 timing functions selectable by rotary switch
- 8 time ranges up to 300 h selectable by rotary switch
- 2-voltage version available
- Devices also available with 2 changeover contacts

Multifunction relay RK 7817
from the MULTITIMER series

Multi

c UL us LISTED *

Timing Functions RK Series:

						
	Device type	RK 7817	RK 7813	RK 7814	RK 7816	RK 7815
Multi	Multifunction relay	•				
AV	On-delay	•	•	•		
RV	Off-delay with control signal	•				
RV	Off-delayewithout control signal					
AV/RV	On-/off-delay	•				
TI/TP	Cycle timer					
BI/BP	Flasher relay	•			•	
EW	On make fleeting action relay	•				•
AW	On break fleeting action relay	•				
EW AW	On make / on break fleeting action relay					
IE	Pulse generator	•				
IF	Pulse shaper	•				
Y△	Star-delta relay					

MINITIMER
Monofunctional timers

The timers from the RK series in compact distributor enclosures meet the requirements to modern time control devices. The monofunctional representatives of this series include on-delay timers as well as fleeting action and flasher relays. Apart from the changeover contact of the standard models a second changeover contact is optionally available, either delayed or as an instantaneous contact. Therefore, the timers are also suitable for the realization of time-dependent controls in the industry and in building automation.

▶ 2-voltage version available

Timer, on-delay IK 7814
from the MINITIMER series

AV

c UL us LISTED *

Technical Data* RK Series:

					
Device type	**RK 7817**	**RK 7813**	**RK 7814**	**RK 7816**	**RK 7815**
Function	**Multifunction relay**	**Timer, on-delay**	**Timer, on-delay**	**Flasher relay**	**On make fleeting action relay**
Special features	2-voltage version	2-voltage version	2-voltage version	2-voltage version	2-voltage version
Time ranges	0,02 s - 300 h	0,1 s - 10 h	0,05 s - 960 min	0,1 s - 10 h	0,1 s - 10 h
Nominal voltage AC	•	•	•	•	•
Nominal voltage DC	•				
Nominal voltage AC/DC	•	•	•	•	•
Contact assembly max.	1 C/O; 2 C/O	1 C/O; 2 C/O	1 C/O; 2 C/O	1 C/O; 2 C/O	1 C/O; 2 C/O
Thermal current I_{th} max.	4 A	4 A	4 A	4 A	4 A
Temperature range	-20 ... +60 °C	-20 ... +60 °C	-20 ... +60 °C	-20 ... +60 °C	-20 ... +60 °C
Connection technology	C/O				
Enclosure	Installation distributor				
Overall width	17,5 mm				

* Specifications, approvals, etc. see data sheet
S = Screw terminals C/O = changeover contact

UG Series
Multifunctional safety timers

SAFEMASTER C
Multifunctional safety modules with selectable safety and timing functions

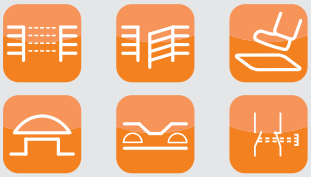
The safety timer UG 6960 of the SAFEMASTER C family serves the protection of operators and machines by the safety-oriented release and interruption of safety circuits. With the UG 6960 you combine safety timing functions and a safety function in just one device. 5 safe timing functions with delay times of up to 300 minutes that can be selected flexibly and without programming can be realized by latching rotary switches.

- Off-delay, off-delay retriggerable
- On-delay, fleeting on make / on break fleeting action relays
- Different safety functions

Multifunctional
safety timer UG 6960
of the SAFEMASTER C series

5 safety timing functions

6 safety functions



c UL us LISTED *

Overview: Multifunctional Safety Timer SAFEMASTER C *

		
Device type	**UG 6960**	**UG 6961**
Timing functions	off-delay, off-delay retriggerable, on-delay, on make / on break fleeting action relay	
Safety functions		
Cat. / PL acc. EN ISO 13849-1	4 / e	4 / e
SIL CL acc. IEC/EN 62061	3	3
Contact assembly max.	4 NO	2 NO
Nominal voltage DC	•	•
Thermal current I_{th} max.	8 A	8 A
Cross-wire monitoring	•	•
Temperature range	-25 ... +60 °C	-25 ... +60 °C
Approval	TÜV, UL	TÜV, UL
Special features	suitable for combustion plants acc. EN 50156-1	
Connection technology	PS/PC/PT	
Enclosure	Control cabinet	
Overall width	22,5 mm	

* Specifications, approvals, etc. see data sheet

PS= removable screw terminals
PC= removable cage clamp terminals
PT= removable cage clamp terminals 2-wire

NO = normally open contact
NC = normally closed contact

DOLD

E. Dold & Söhne GmbH & Co. KG
Bregstraße 18 • D-78120 Furtwangen
T +49 7723 654-0 • F +49 7723 654-356
dold-relays@dold.com • www.dold.com

AE05 / 1212 co