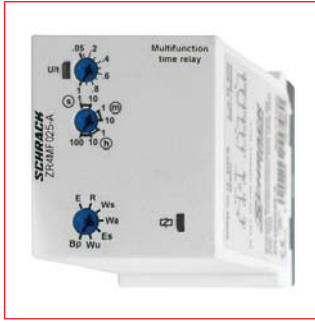
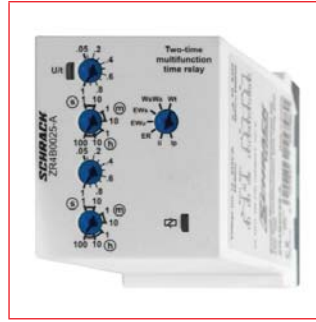


**Timer Relays Series ZR4, for Round 11 Pole Plug-in Socket**



ZR4MF025-A



ZR4B0025-A



YMR78700

**Schrack-Info**

**ZR4MF025-A**

- Multi-function relay
- 2 CO
- Modes: "E", "R", "Ws", "Wa", "Es", "Wu" & "Bp"
- For 11 pole plug-in MT socket
- Multi-voltage 12-240 V AC/DC
- 38 mm component width
- Standard front dimension 45 mm

**ZR4B0025-A**

- Flasher relay
- 2 CO
- Internal clock
- Dual time multi-function
- Zoom voltage
- Modes: "lp", "li", "ER", "EWu", "EWs", "WsWa" & "Wt"
- For 11 pole plug-in MT socket
- Multi-voltage 12-240 V AC/DC
- 38 mm component width
- Standard front dimension 45 mm

**YMR78700**

- MT socket compatible with pluggable Series ZR4 timer relays

**Overview ZR4 Timer Relays**

Article	Number of contacts and type	Voltage range	Number of time ranges	Number of functions	E	R	Ws	Wa	Es	Wu	Bp	lp	li	ER	EWu	EWs	WsWa	Wt
ZR4MF025-A	2 CO	12 - 240 V AC / DC	7	7	X	X	X	X	X	X	X							
ZR4B0025-A	2 CO	12 - 240 V AC / DC	7	7								X	X	X	X	X	X	X

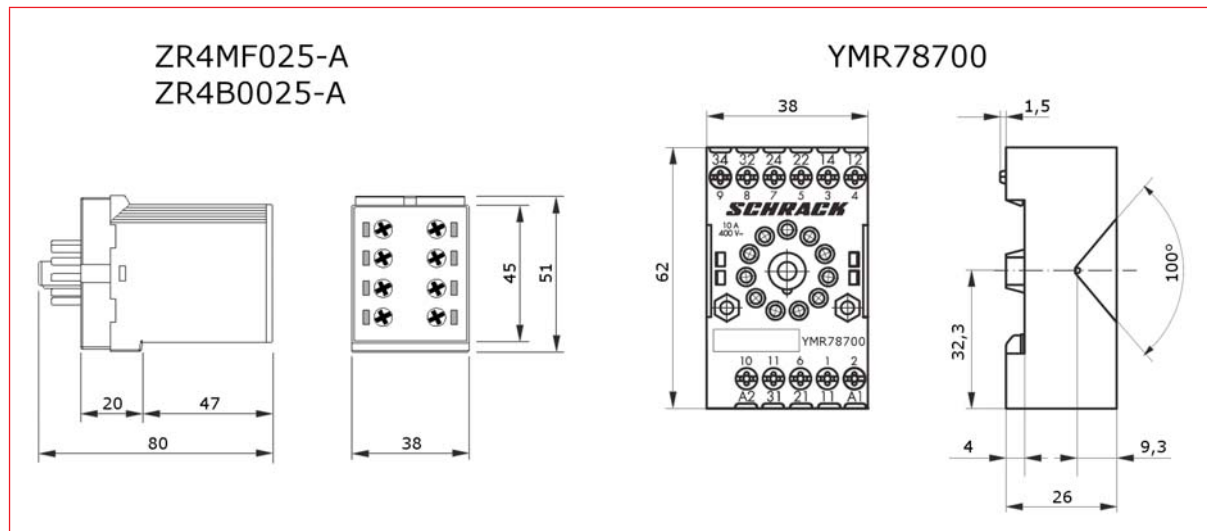
## Timer Relays Series ZR4, for Round 11 Pole Plug-in Socket

### Overview Modes

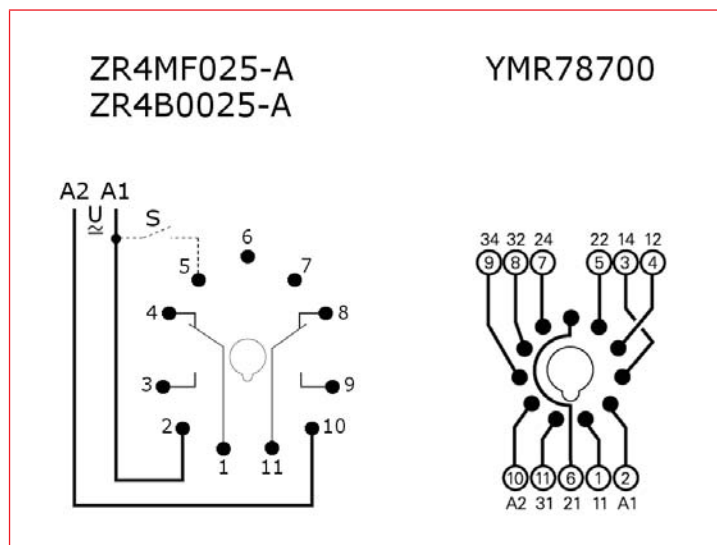
Article	
ZR4MF025-A	Pluggable multifunction relay
ZR4B0025-A	Pluggable pulse time relay

Functions	
E	ON delay
R	OFF delay (with control contact)
Ws	Single shot leading edge (with control contact)
Wa	Single shot trailing edge (with control contact)
Es	ON delay (with control contact)
Wu	Single shot leading edge voltage controlled
Bp	Flasher pause first
ER	ON and OFF delay (with control contact)
EWu	ON delay and single shot leading edge voltage controlled
EWs	ON delay and single shot leading edge (with control contact)
WsWa	Single shot leading- and single shot trailing edge (with control contact)
Wt	Pulse sequence monitoring
lp	Asymmetric flasher pause first
li	Asymmetric flasher pulse first

### Dimensions (mm)



### Circuit Diagrams Overview



### Time Ranges

ZR4MF025-A, ZR4B0025-A	
Time range	Adjustment range
1 s	50 ms - 1 s
10 s	500 ms - 10 s
1 min	3 s - 1 min
10 min	30 s - 10 min
1 h	3 min - 1 h
10 h	30 min - 10 h
100 h	5 h - 100 h

Timer Relays Series ZR4, for Round 11 Pole Plug-in Socket

Modes



Overview Modes

Article	E	R	Ws	Wa	Es	Wu	Bp	lp	li	ER	EWu	EWs	WsWa	Wt
ZR4MF025-A	X	X	X	X	X	X	X							
ZR4B0025-A								X	X	X	X	X	X	X

Detailed Description of Modes (Part 1)

<b>E</b>	<p><b>ON delay</b></p> <p>When the supply voltage <b>U</b> is applied, the set interval <b>t</b> begins (green LED <b>U/t</b> flashes). After the interval <b>t</b> has expired (green LED <b>U/t</b> illuminated) the output relay <b>R</b> switches into on-position (yellow LED illuminated). This status remains until the supply voltage is interrupted. If the supply voltage is interrupted before the expiry of the interval <b>t</b>, the interval already expired is erased and is restarted when the supply voltage is next applied.</p>	<b>lp</b>	<p><b>Asymmetric flasher pause first</b></p> <p>When the supply voltage <b>U</b> is applied, the set interval <b>t1</b> begins (green LED <b>U/t</b> flashes slowly). After the interval <b>t1</b> has expired, the output relay <b>R</b> switches into on-position (yellow LED illuminated) and the set interval <b>t2</b> begins (green LED <b>U/t</b> flashes fast). After the interval <b>t2</b> has expired, the output relay switches into off-position (yellow LED not illuminated). The output relay is triggered at the ratio of <b>t1:t2</b> until the supply voltage is interrupted.</p>
<b>R</b>	<p><b>OFF delay with control contact "S"</b></p> <p>The supply voltage <b>U</b> must be constantly applied to the device (green LED <b>U/t</b> illuminated). When the control contact <b>S</b> is closed, the output relay <b>R</b> switches into on-position (yellow LED illuminated). If the control contact is opened, the set interval <b>t</b> begins (green LED <b>U/t</b> flashes). After the interval <b>t</b> has expired (green LED <b>U/t</b> illuminated) the output relay switches into off-position (yellow LED not illuminated). If the control contact is closed again before the interval <b>t</b> has expired, the interval already expired is erased and is restarted.</p>	<b>li</b>	<p><b>Asymmetric flasher pulse first</b></p> <p>When the supply voltage <b>U</b> is applied, the output relay <b>R</b> switches into on-position (yellow LED illuminated) and the set interval <b>t1</b> begins (green LED <b>U/t</b> flashes slowly). After the interval <b>t1</b> has expired, the output relay switches into off-position (yellow LED not illuminated) and the set interval <b>t2</b> begins (green LED <b>U/t</b> flashes fast). After the interval <b>t2</b> has expired, the output relay switches into on-position (yellow LED illuminated). The output relay is triggered at the ratio of <b>t1:t2</b> until the supply voltage is interrupted.</p>
<b>Ws</b>	<p><b>Single shot leading edge with control contact "S"</b></p> <p>The supply voltage <b>U</b> must be constantly applied to the device (green LED <b>U/t</b> illuminated). When the control contact <b>S</b> is closed, the output relay <b>R</b> switches into on-position (green LED <b>U/t</b> illuminated) and the set interval <b>t</b> begins (green LED <b>U/t</b> flashes). After the interval <b>t</b> has expired (green LED <b>U/t</b> illuminated) the output relay switches into off-position (yellow LED not illuminated). During the interval, the control contact can be operated any number of times. A further cycle can only be started when the cycle run has been completed.</p>	<b>ER</b>	<p><b>ON delay and OFF delay with control contact "S"</b></p> <p>The supply voltage <b>U</b> must be constantly applied to the device (green LED <b>U/t</b> illuminated). When the control contact <b>S</b> is closed, the set interval <b>t1</b> begins (green LED <b>U/t</b> flashes slowly). After the interval <b>t1</b> has expired, the output relay <b>R</b> switches into on-position (yellow LED illuminated). If the control contact is opened, the set interval <b>t2</b> begins (green LED <b>U/t</b> flashes fast). After the interval <b>t2</b> has expired, the output relay switches into off-position (yellow LED not illuminated). If the control contact is opened before the interval <b>t1</b> has expired, the interval already expired is erased and is restarted with the next cycle.</p>

## Timer Relays Series ZR4, for Round 11 Pole Plug-in Socket




### Detailed Description of Modes (Part 2)

<b>Wa</b>	<p><b>Single shot trailing edge with control contact "S"</b></p> <p>The supply voltage <b>U</b> must be constantly applied to the device (green LED <b>U/t</b> illuminated). Closing the control contact <b>S</b> has no influence on the condition of the output <b>R</b>. When the control contact is opened, the output relay switches into on-position (yellow LED illuminated) and the set interval <b>t</b> begins (green LED <b>U/t</b> flashes). After the interval <b>t</b> has expired (green LED <b>U/t</b> illuminated), the output relay switches into off-position (yellow LED not illuminated). During the interval, the control contact can be operated any number of times. A further cycle can only be started when the cycle run has been completed.</p>	<b>EWu</b>	<p><b>ON delay and single shot leading edge, voltage controlled</b></p> <p>When the supply voltage <b>U</b> is applied, the set interval <b>t1</b> begins (green LED <b>U/t</b> flashes slowly). After the interval <b>t1</b> has expired, the output relay <b>R</b> switches into on-position (yellow LED illuminated) and the set interval <b>t2</b> begins (green LED <b>U/t</b> flashes fast). After the interval <b>t2</b> has expired, the output relay switches into off-position (yellow LED not illuminated). If the supply voltage is interrupted before the interval <b>t1+t2</b> has expired, the interval already expired is erased and is restarted when the supply voltage is next applied.</p>
<b>Es</b>	<p><b>ON delay with control contact "S"</b></p> <p>The supply voltage <b>U</b> must be constantly applied to the device (green LED <b>U/t</b> illuminated). When the control contact <b>S</b> is closed, the set interval <b>t</b> begins (green LED <b>U/t</b> flashes). After the interval <b>t</b> has expired (green LED <b>U/t</b> illuminated) the output relay <b>R</b> switches into on-position (yellow LED illuminated). This status remains until the control contact is opened again. If the control contact is opened before the interval <b>t</b> has expired, the interval already expired is erased and is restarted with the next cycle.</p>	<b>EWs</b>	<p><b>ON delay and single shot leading edge with control contact "S"</b></p> <p>The supply voltage <b>U</b> must be constantly applied to the device (green LED <b>U/t</b> illuminated). When the control contact <b>S</b> is closed, the set interval <b>t1</b> begins (green LED <b>U/t</b> flashes slowly). After the interval <b>t1</b> has expired, the output relay <b>R</b> switches into on-position (yellow LED illuminated) and the set interval <b>t2</b> begins (green LED <b>U/t</b> flashes fast). After the interval <b>t2</b> has expired, the output relay switches into off-position (yellow LED not illuminated). During the interval, the control contact can be operated any number of times. A further cycle can only be started when the cycle run has been completed.</p>
<b>Wu</b>	<p><b>Single shot leading edge, voltage controlled</b></p> <p>When the supply voltage <b>U</b> is applied, the output relay <b>R</b> switches into on-position (yellow LED illuminated) and the set interval <b>t</b> begins (green LED <b>U/t</b> flashes). After the interval <b>t</b> has expired (green LED <b>U/t</b> illuminated) the output relay switches into off-position (yellow LED not illuminated). This status remains until the supply voltage is interrupted. If the supply voltage is interrupted before the interval <b>t</b> has expired, the output relay switches into off-position. The interval already is erased and is restarted when the supply voltage is next applied.</p>	<b>WsWa</b>	<p><b>Single shot leading and single shot trailing edge with control contact "S"</b></p> <p>The supply voltage <b>U</b> must be constantly applied to the device (green LED <b>U/t</b> illuminated). When the control contact <b>S</b> is closed, the output relay <b>R</b> switches into on-position (yellow LED illuminated) and the set interval <b>t1</b> begins (green LED <b>U/t</b> flashes slowly). After the interval <b>t1</b> has expired, the output relay <b>R</b> switches into off-position (yellow LED not illuminated). If the control contact is opened, the output relay again switches into on-position (yellow LED illuminated) and the set interval <b>t2</b> begins (green LED <b>U/t</b> flashes fast). After the interval <b>t2</b> has expired the output relay switches into off-position (yellow LED not illuminated). During the interval, the control contact can be operated any number of times.</p>
<b>Bp</b>	<p><b>Flasher pause first</b></p> <p>When the supply voltage <b>U</b> is applied, the set interval <b>t</b> begins (green LED <b>U/t</b> flashes). After the interval <b>t</b> has expired, the output relay <b>R</b> switches into on-position (yellow LED illuminated) and the set interval <b>t</b> begins again. After the interval <b>t</b> has expired, the output relay switches into off-position (yellow LED not illuminated). The output relay is triggered at a ratio of 1 : 1 until the supply voltage is interrupted.</p>	<b>Wt</b>	<p><b>Pulse sequence monitoring</b></p> <p>When the supply voltage <b>U</b> is applied, the set interval <b>t1</b> begins (green LED <b>U/t</b> flashes slowly) and the output relay <b>R</b> switches into on-position (yellow LED illuminated) After the interval <b>t1</b> has expired, the set interval <b>t2</b> begins (green LED <b>U/t</b> flashes fast). So that the output relay <b>R</b> remains into on-position, the control contact <b>S</b> must be closed and opened again within the set interval <b>t2</b>. If this does not happen, the output relay <b>R</b> switches into off-position (yellow LED not illuminated) and all further pulses at the control contact are ignored. To restart the function the supply voltage must be interrupted and reapplied.</p>

Timer Relays Series ZR4, for Round 11 Pole Plug-in Socket

Technical Data

		ZR4MF025-A	ZR4B0025-A	
<b>INDICATORS</b>	Green LED U/t ON	Indication of supply voltage		
	Green LED U/t flashes	Indication of time period	Indication of time period t1	
	Green LED U/t flashes fast	-	Indication of time period t2	
	Yellow LED R ON/OFF	Indication of relay output		
<b>MECHANICAL DESIGN</b>	Housing	Self-extinguishing plastic housing		
	IP rating housing	IP40		
	Mounting	(IEC 60067-1-18 <sub>a</sub> )	11-pole socket <b>YMR78700</b>	
	Terminal	(VBG 4, PZ1 required)	Shockproof terminal connection	
	IP rating terminal		IP20	
	Mounting position		Any	
	Tightening torque		Max. 1 Nm	
	Terminal capacity		1 x 0.5 to 2.5 mm <sup>2</sup> with/without multicore cable end 1 x 4 mm <sup>2</sup> without multicore cable end 2 x 0.5 to 1.5 mm <sup>2</sup> with/without multicore cable end 2 x 2.5 mm <sup>2</sup> flexible without multicore cable end	
<b>INPUT CIRCUIT</b>	Pins	S2(+)-S10 / A1(+)-A2		
	Supply voltage	12 - 240 V AC / DC		
	Tolerance	-10 % to +10 %		
	Rated consumption	6 VA (2 W)		
	Rated frequency	48 to 63 Hz		
	Duty cycle	100 %		
	Reset time	100 ms		
	Residual ripple for DC	10 %		
	Drop-out voltage	> 30 % of the supply voltage		
	Overvoltage category	(IEC 60664-1)	III	
	Rated surge voltage	4 kV		
<b>OUTPUT CIRCUIT</b>	Number of contacts and type	2 potential free CO contacts		
	Rated voltage	250 V AC		
	Switching capacity	2000 VA (8A / 250 V)		
	Fusing	8 A fast acting		
	Mechanical service life	20 x 10 <sup>5</sup> operations		
	Electrical service life	2 x 10 <sup>5</sup> operations at 1000 VA resistive load		
	Switching frequency	(IEC 60947-5-1)	Max. 6 / min at 1000 VA resistive load	
	Overvoltage category	(IEC 60664-1)	III	
<b>CONTROL CIRCUIT</b>	Rated surge voltage	4 kV		
	Input not potential free	Pins S2-S5		
	Loadable	Yes		
	Max. line length	10 m		
	Trigger level (sensitivity)	Automatic adaption to supply voltage		
<b>ACCURACY</b>	Min. control pulse length	DC 50 ms, AC 100 ms		
	Base accuracy	± 1 % of maximum scale value		
	Adjusting accuracy	< 5 % of maximum scale value		
	Repetition accuracy	< 0.5 % or ± 5ms		
<b>AMBIENT CONDITIONS</b>	Temperature influence	≤ 0.01 % / °C		
	Ambient temperature	-25 °C to +55 °C		
	Storage temperature	-25 °C to +70 °C		
	Transport temperature	-25 °C to +70 °C		
	Relative humidity	(IEC 60721-3-3 class 3K3)	15 % to 85 %	
	Pollution degree	(IEC 60664-1)	2, if built in 3	

DESCRIPTION	AVAILABLE	ORDER NO.
<b>Multi-function Relays</b>		
Timer multifunction 12-240V AC/DC, 2CO, 8A, plug-version		<b>ZR4MF025-A</b>
<b>Flasher Relays</b>		
Two-time multifunction 12-240VAC/DC, 2CO, 8A, 250V, plug-version		<b>ZR4B0025-A</b>
<b>Sockets</b>		
DIN rail mounted plug-in socket for MT3 relays and timer relays series ZR4, 11 pole, 10A (3 CO), with screw terminals, not compatible with function modules		<b>YMR78700</b>

