

1-Channel circuit breaker **EasyB 1-Channel**



General Data

24 Vdc 1-channel circuit breaker system
Efficiency up to 99 %
Multi-coloured LED and status display button
Up to 40 fuse channels stackable side by side
Optionally with current limitation or thermomagnetic characteristic
Common signalling output for tripped and switched off channels
Ambient temperature -25 °C to +70 °C
Protection index IP 20

Advantages

Automatic channel assignment
Optional communication via communication modules
Optional undervoltage shutdown in combined network
Optional settings for tripping current
Additional load outputs through output expanders mountable side by side
Selective load-dependent activation
Versions with collective reset input

Applications

EB-27 Electronic circuit breaker with thermomagnetic characteristic with alarm signal forwarded for tripped and switched off channels to the connected channels. Starter version with fuse for 24 V loads.

EB-28 Electronic circuit breaker with current-limiting characteristic with alarm signal forwarded for tripped and switched off channels to the connected channels. Starter version with fuse for 24 V loads if active current limitation is required.

EB-08, EB-18, EB-38 Electronic circuit breaker with current-limiting characteristic and comprehensive communication with the connected modules. Suitable as advanced fuse for 24 V loads with option of reading more detailed current supply parameters and actively controlling the channels.

Standards

Safety:
EN 60950-1, EN 50178, EN/IEC 60204-1

EMC:
EN 61000-6-2 (interference immunity), EN 61000-6-3 (emitted interference)

CE acc. to 2014/30/EU

Approvals



UL 508 (prepared), UL 2367 (prepared), GL (prepared)



1-Channel circuit breaker **EasyB 1-Channel**

Typ		EB-2724-060-0	EB-2724-080-0	EB-2724-100-0	EB-2824-010-0
Electrical data	Special features				
	Characteristics	-	-	-	-
	Input				
	Input rated voltage	24 Vdc	24 Vdc	24 Vdc	24 Vdc
	Input voltage range	18 - 30 Vdc	18 - 30 Vdc	18 - 30 Vdc	18 - 30 Vdc
	Maximal residual ripple of supplied input voltage	3 %	3 %	3 %	3 %
	Max. total input current	6 A	8 A	10 A	1 A
	Max. input current for each pole of terminal	10 A (-), 40 A (+)	10 A (-), 40 A (+)	10 A (-), 40 A (+)	10 A (-), 40 A (+)
	Required input voltage for turning-on of outputs	17,5 V (Turn-off Threshold 16,7 V), ± 0,7 V	17,5 V (Turn-off Threshold 16,7 V), ± 0,7 V	17,5 V (Turn-off Threshold 16,7 V), ± 0,7 V	17,5 V (Turn-off Threshold 16,7 V), ± 0,7 V
	Max. power losses	0,6 W	0,9 W	1,2 W	0,6 W
Over voltage protection	Suppressor diode 33 V	Suppressor diode 33 V	Suppressor diode 33 V	Suppressor diode 33 V	
Stand-by current	12 mA @ 24 V	12 mA @ 24 V	12 mA @ 24 V	18,6 mA @ 24 V	
Power losses in stand-by mode	0,3 W @ 24 V	0,3 W @ 24 V	0,3 W @ 24 V	0,5 W @ 24 V	
Turn on capacity	70 mF @ 24 Vdc / 2,5 mm ² / 2,5 m	70 mF @ 24 Vdc / 2,5 mm ² / 2,5 m	50 mF @ 24 Vdc / 2,5 mm ² / 2,5 m	110 mF @ 24 Vdc / 2,5 mm ² / 2,5 m	
Output					
Output rated voltage	24 Vdc	24 Vdc	24 Vdc	24 Vdc	
Maximum voltage drop between input and output	54 mV	72 mV	92 mV	58 mV	
Initialization time of module	27 ms	27 ms	27 ms	52 ms	
Turn-on delay of outputs	0 ms	0 ms	0 ms	0 ms	
Waiting periode after switch-off of an output	500 ms (Short circuit) .. 5 s (Overload)	500 ms (Short circuit) .. 5 s (Overload)	500 ms (Short circuit) .. 5 s (Overload)	500 ms (Short circuit) .. 5 s (Overload)	
Parallel use of outputs	Not allowed	Not allowed	Not allowed	Not allowed	
Serial use of outputs	not allowed	not allowed	not allowed	not allowed	
Resistance to reverse feed max.	35 Vdc	35 Vdc	35 Vdc	35 Vdc	
Output rated current	6 A	8 A	10 A	1 A	
Efficiency	99,0 %	99,0 %	99,0 %	99,0 %	
Output limited current	-	-	-	typ. 1,25 A	
Signaling					
Bus communication	Collective notification signal bypassed	Collective notification signal bypassed	Collective notification signal bypassed	Collective notification signal bypassed	
Status indicator	LED (red, green, orange)	LED (red, green, orange)	LED (red, green, orange)	LED (red, green, orange)	
Signal output	Output status, short circuit proof high = Channel on, low = Channel off, fault	Output status, short circuit proof high = Channel on, low = Channel off, fault	Output status, short circuit proof high = Channel on, low = Channel off, fault	Output status, short circuit proof high = Channel on, low = Channel off, fault	
Signal output (ON/OFF/Reset)	-	-	-	-	
Environment					
Type of cooling	Natural convection	Natural convection	Natural convection	Natural convection	
Ambient temperature	-25 °C .. +70 °C	-25 °C .. +60 °C	-25 °C .. +55 °C	-25 °C .. +70 °C	
Storage temperature	-25 °C ... +85 °C	-25 °C ... +85 °C	-25 °C ... +85 °C	-25 °C ... +85 °C	
Derating	-	-	-	-	
Relative humidity	5 .. 96 %, without condensation	5 .. 96 %, without condensation	5 .. 96 %, without condensation	5 .. 96 %, without condensation	
Required minimum spacing (left/right)	0 mm	0 mm	0 mm	0 mm	
Required minimum spacing (over/under)	30 mm	30 mm	30 mm	30 mm	
Safety and protection					
Protection index	IP 20	IP 20	IP 20	IP 20	
Safety class	III, without PE connection	III, without PE connection	III, without PE connection	III, without PE connection	
Degree of pollution	2	2	2	2	
Order numbers					
Order Number	EB-2724-060-0	EB-2724-080-0	EB-2724-100-0	EB-2824-010-0	



1-Channel circuit breaker EasyB 1-Channel

Typ	EB-2824-020-0	EB-2824-030-0	EB-2824-040-0	EB-2824-060-0
Electrical data				
Special features				
Characteristics	-	-	-	-
Input				
Input rated voltage	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Input voltage range	18 - 30 Vdc	18 - 30 Vdc	18 - 30 Vdc	18 - 30 Vdc
Maximal residual ripple of supplied input voltage	3 %	3 %	3 %	3 %
Max. total input current	2 A	3 A	4 A	6 A
Max. input current for each pole of terminal	10 A (-), 40 A (+)	10 A (-), 40 A (+)	10 A (-), 40 A (+)	10 A (-), 40 A (+)
Required input voltage for turning-on of outputs	17,5 V (Turn-off Threshold 16,7 V), ± 0,7 V	17,5 V (Turn-off Threshold 16,7 V), ± 0,7 V	17,5 V (Turn-off Threshold 16,7 V), ± 0,7 V	17,5 V (Turn-off Threshold 16,7 V), ± 0,7 V
Max. power losses	0,6 W	0,7 W	0,9 W	1,1 W
Over voltage protection	Suppressor diode 33 V	Suppressor diode 33 V	Suppressor diode 33 V	Suppressor diode 33 V
Stand-by current	18,6 mA @ 24 V	18,6 mA @ 24 V	18,6 mA @ 24 V	18,6 mA @ 24 V
Power losses in stand-by mode	0,5 W @ 24 V	0,5 W @ 24 V	0,5 W @ 24 V	0,5 W @ 24 V
Turn on capacity	130 mF @ 24 Vdc / 2,5 mm ² / 2,5 m	120 mF @ 24 Vdc / 2,5 mm ² / 2,5 m	110 mF @ 24 Vdc / 2,5 mm ² / 2,5 m	80 mF @ 24 Vdc / 2,5 mm ² / 2,5 m
Output				
Output rated voltage	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Maximum voltage drop between input and output	55 mV	82 mV	70 mV	100 mV
Initialization time of module	52 ms	52 ms	52 ms	52 ms
Turn-on delay of outputs	0 ms	0 ms	0 ms	0 ms
Waiting periode after switch-off of an output	500 ms (Short circuit) .. 5 s (Overload)	500 ms (Short circuit) .. 5 s (Overload)	500 ms (Short circuit) .. 5 s (Overload)	500 ms (Short circuit) .. 5 s (Overload)
Parallel use of outputs	Not allowed	Not allowed	Not allowed	Not allowed
Serial use of outputs	not allowed	not allowed	not allowed	not allowed
Resistance to reverse feed max.	35 Vdc	35 Vdc	35 Vdc	35 Vdc
Output rated current	2 A	3 A	4 A	6 A
Efficiency	99,0 %	99,0 %	99,0 %	99,0 %
Output limited current	typ. 2,5 A	typ. 3,75 A	typ. 5 A	typ. 7,5 A
Signaling				
Bus communication	Collective notification signal bypassed	Collective notification signal bypassed	Collective notification signal bypassed	Collective notification signal bypassed
Status indicator	LED (red, green, orange)	LED (red, green, orange)	LED (red, green, orange)	LED (red, green, orange)
Signal output	Output status, short circuit proof high = Channel on, low = Channel off, fault	Output status, short circuit proof high = Channel on, low = Channel off, fault	Output status, short circuit proof high = Channel on, low = Channel off, fault	Output status, short circuit proof high = Channel on, low = Channel off, fault
Signal output (ON/OFF/Reset)	-	-	-	-
Environment				
Type of cooling	Natural convection	Natural convection	Natural convection	Natural convection
Ambient temperature	-25 °C .. +70 °C	-25 °C .. +70 °C	-25 °C .. +70 °C	-25 °C .. +70 °C
Storage temperature	-25 °C ... +85 °C	-25 °C ... +85 °C	-25 °C ... +85 °C	-25 °C ... +85 °C
Derating	-	-	-	-
Relative humidity	5 .. 96 %, without condensation	5 .. 96 %, without condensation	5 .. 96 %, without condensation	5 .. 96 %, without condensation
Required minimum spacing (left/right)	0 mm	0 mm	0 mm	0 mm
Required minimum spacing (over/under)	30 mm	30 mm	30 mm	30 mm
Safety and protection				
Protection index	IP 20	IP 20	IP 20	IP 20
Safety class	III, without PE connection	III, without PE connection	III, without PE connection	III, without PE connection
Degree of pollution	2	2	2	2
Order numbers				
Order Number	EB-2824-020-0	EB-2824-030-0	EB-2824-040-0	EB-2824-060-0

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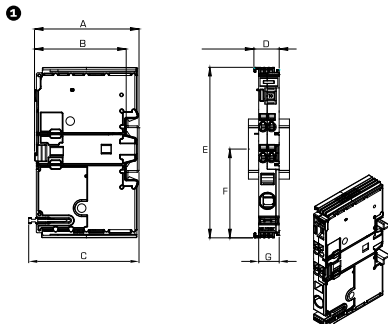
Typ	EB-2824-080-0	EB-2824-100-0	EB-3824-100-0
Electrical data			
Special features			
Characteristics	-	-	Adjustable tripping currents
Input			
Input rated voltage	24 Vdc	24 Vdc	24 Vdc
Input voltage range	18 - 30 Vdc	18 - 30 Vdc	18 - 30 Vdc
Maximal residual ripple of supplied input voltage	3 %	3 %	3 %
Max. total input current	8 A	10 A	10 A
Max. input current for each pole of terminal	10 A (-), 40 A (+)	10 A (-), 40 A (+)	10 A (-), 40 A (+)
Required input voltage for turning-on of outputs	17,5 V (Turn-off Threshold 16,7 V), ± 0,7 V	17,5 V (Turn-off Threshold 16,7 V), ± 0,7 V	17,5 V (Turn-off Threshold 16,7 V), ± 0,7 V
Max. power losses	1,3 W	1,8 W	1,2 W - 2,5 W
Over voltage protection	Suppressor diode 33 V	Suppressor diode 33 V	Suppressor diode 33 V
Stand-by current	18,6 mA @ 24 V	18,6 mA @ 24 V	39 mA @ 24 V
Power losses in stand-by mode	0,5 W @ 24 V	0,5 W @ 24 V	1,17 W @ 24 V
Turn on capacity	80 mF	70 mF @ 24 Vdc / 2,5 mm ² / 2,5 m	50-110 mF @ 24 Vdc / 2,5 mm ² / 2,5 m
Output			
Output rated voltage	24 Vdc	24 Vdc	24 Vdc
Maximum voltage drop between input and output	92 mV	130 mV	130 mV
Initialization time of module	52 ms	52 ms	52 ms
Turn-on delay of outputs	0 ms	0 ms	min. 50 ms / max. 5 s
Waiting periode after switch-off of an output	500 ms (Short circuit) .. 5 s (Overload)	500 ms (Short circuit) .. 5 s (Overload)	500 ms (Short circuit) .. 5 s (Overload)
Parallel use of outputs	Not allowed	Not allowed	Not allowed
Serial use of outputs	not allowed	not allowed	not allowed
Resistance to reverse feed max.	35 Vdc	35 Vdc	35 Vdc
Output rated current	8 A	10 A	0,5 - 10 A, adjustable (0,5A, 1A, 2A, 3A, 4A, 5A, 6A, 8A, 10A)
Efficiency	99,0 %	99,0 %	99,0 %
Output limited current	typ. 10 A	typ. 12,5 A	typ. rated current x 1,25 (@ 1-10 A) typ. rated current x 2,5 (@ 0,5 A)
Signaling			
Bus communication	Collective notification signal bypassed	Collective notification signal bypassed	Read-state (tripped, On, Off) -set/ current -input voltage -firmware version/serial number Write-state (on, off, reset)
Status indicator	LED (red, green, orange)	LED (red, green, orange)	LED (red, green, orange)
Signal output	Output status, short circuit proof high = Channel on, low = Channel off, fault	Output status, short circuit proof high = Channel on, low = Channel off, fault	Output status, short circuit proof high = Channel on, low = Channel off, fault
Signal output (ON/OFF/Reset)	-	-	Reset input Level high = min. 15V, max. 30V Level low = min. 0V, max. 5V
Environment			
Type of cooling	Natural convection	Natural convection	Natural convection
Ambient temperature	-25 °C .. +60 °C	-25 °C .. +60 °C	-25 °C .. +70 °C
Storage temperature	-25 °C ... +85 °C	-25 °C ... +85 °C	-25 °C ... +85 °C
Derating	-	-	max. +60 °C > 6A
Relative humidity	5 .. 96 %, without condensation	5 .. 96 %, without condensation	5 .. 96 %, without condensation
Required minimum spacing (left/right)	0 mm	0 mm	0 mm
Required minimum spacing (over/under)	30 mm	30 mm	30 mm
Safety and protection			
Protection index	IP 20	IP 20	IP 20
Safety class	III, without PE connection	III, without PE connection	III, without PE connection
Degree of pollution	2	2	2
Order numbers			
Order Number	EB-2824-080-0	EB-2824-100-0	EB-3824-100-0



1-Channel circuit breaker EasyB 1-Channel

Typ	Terminals output, (spring clamp terminal)	Terminals input, (spring clamp terminal)	Terminals signalling, (spring clamp terminal)	Mounting position	Weight	Width	Dimension picture (in mm)	A	B	C	D	E	F	G
								1	2	3	4	5	6	7
EB-0824-100-0	max 2,5 mm ² (1 x "+")	max. 16 mm ²	max. 2,5 mm ²	horizontal for standard rail DIN TS35	0.042 kg	12 mm	1	61.2	53.7	64.5	14.8	99.3	51.7	12
EB-1824-010-0	max 2,5 mm ² (1 x "+")	max. 16 mm ²	max. 2,5 mm ²	horizontal for standard rail DIN TS35	0.042 kg	12 mm	1	61.2	53.7	64.5	14.8	99.3	51.7	12
EB-1824-020-0	max 2,5 mm ² (1 x "+")	max. 16 mm ²	max. 2,5 mm ²	horizontal for standard rail DIN TS35	0.042 kg	12 mm	1	61.2	53.7	64.5	14.8	99.3	51.7	12
EB-1824-030-0	max 2,5 mm ² (1 x "+")	max. 16 mm ²	max. 2,5 mm ²	horizontal for standard rail DIN TS35	0.042 kg	12 mm	1	61.2	53.7	64.5	14.8	99.3	51.7	12
EB-1824-040-0	max 2,5 mm ² (1 x "+")	max. 16 mm ²	max. 2,5 mm ²	horizontal for standard rail DIN TS35	0.042 kg	12 mm	1	61.2	53.7	64.5	14.8	99.3	51.7	12
EB-1824-060-0	max 2,5 mm ² (1 x "+")	max. 16 mm ²	max. 2,5 mm ²	horizontal for standard rail DIN TS35	0.042 kg	12 mm	1	61.2	53.7	64.5	14.8	99.3	51.7	12
EB-1824-080-0	max 2,5 mm ² (1 x "+")	max. 16 mm ²	max. 2,5 mm ²	horizontal for standard rail DIN TS35	0.042 kg	12 mm	1	61.2	53.7	64.5	14.8	99.3	51.7	12
EB-1824-100-0	max 2,5 mm ² (1 x "+")	max. 16 mm ²	max. 2,5 mm ²	horizontal for standard rail DIN TS35	0.042 kg	12 mm	1	61.2	53.7	64.5	14.8	99.3	51.7	12
EB-2724-010-0	max 2,5 mm ² (2 x "+")	max. 16 mm ²	max. 2,5 mm ²	horizontal for standard rail DIN TS35	0.039 kg	12 mm	1	61.2	53.7	64.5	14.8	99.3	51.7	12
EB-2724-020-0	max 2,5 mm ² (2 x "+")	max. 16 mm ²	max. 2,5 mm ²	horizontal for standard rail DIN TS35	0.039 kg	12 mm	1	61.2	53.7	64.5	14.8	99.3	51.7	12
EB-2724-030-0	max 2,5 mm ² (2 x "+")	max. 16 mm ²	max. 2,5 mm ²	horizontal for standard rail DIN TS35	0.039 kg	12 mm	1	61.2	53.7	64.5	14.8	99.3	51.7	12
EB-2724-040-0	max 2,5 mm ² (2 x "+")	max. 16 mm ²	max. 2,5 mm ²	horizontal for standard rail DIN TS35	0.039 kg	12 mm	1	61.2	53.7	64.5	14.8	99.3	51.7	12
EB-2724-060-0	max 2,5 mm ² (2 x "+")	max. 16 mm ²	max. 2,5 mm ²	horizontal for standard rail DIN TS35	0.039 kg	12 mm	1	61.2	53.7	64.5	14.8	99.3	51.7	12
EB-2724-080-0	max 2,5 mm ² (2 x "+")	max. 16 mm ²	max. 2,5 mm ²	horizontal for standard rail DIN TS35	0.039 kg	12 mm	1	61.2	53.7	64.5	14.8	99.3	51.7	12
EB-2724-100-0	max 2,5 mm ² (2 x "+")	max. 16 mm ²	max. 2,5 mm ²	horizontal for standard rail DIN TS35	0.039 kg	12 mm	1	61.2	53.7	64.5	14.8	99.3	51.7	12
EB-2824-010-0	max 2,5 mm ² (2 x "+")	max. 16 mm ²	max. 2,5 mm ²	horizontal for standard rail DIN TS35	0.040 kg	12 mm	1	61.2	53.7	64.5	14.8	99.3	51.7	12
EB-2824-020-0	max 2,5 mm ² (2 x "+")	max. 16 mm ²	max. 2,5 mm ²	horizontal for standard rail DIN TS35	0.040 kg	12 mm	1	61.2	53.7	64.5	14.8	99.3	51.7	12
EB-2824-030-0	max 2,5 mm ² (2 x "+")	max. 16 mm ²	max. 2,5 mm ²	horizontal for standard rail DIN TS35	0.040 kg	12 mm	1	61.2	53.7	64.5	14.8	99.3	51.7	12
EB-2824-040-0	max 2,5 mm ² (2 x "+")	max. 16 mm ²	max. 2,5 mm ²	horizontal for standard rail DIN TS35	0.040 kg	12 mm	1	61.2	53.7	64.5	14.8	99.3	51.7	12
EB-2824-060-0	max 2,5 mm ² (2 x "+")	max. 16 mm ²	max. 2,5 mm ²	horizontal for standard rail DIN TS35	0.040 kg	12 mm	1	61.2	53.7	64.5	14.8	99.3	51.7	12

Dimension pictures





1-Channel circuit breaker **EasyB 1-Channel**

Mechanical data	Type	Terminals output, (spring clamp terminal)	Terminals input, (spring clamp terminal)	Terminals signalling, (spring clamp terminal)	Mounting position	Weight	Width	Dimension picture (in mm)	A	B	C	D	E	F	G
									1	1	1	1	1	1	1
	EB-2824-080-0	max 2,5 mm ² (2 x "+")	max. 16 mm ²	max. 2,5 mm ²	horizontal for standard rail DIN TS35	0.040 kg	12 mm	1	61.2	53.7	64.5	14.8	99.3	51.7	12
	EB-2824-100-0	max 2,5 mm ² (2 x "+")	max. 16 mm ²	max. 2,5 mm ²	horizontal for standard rail DIN TS35	0.040 kg	12 mm	1	61.2	53.7	64.5	14.8	99.3	51.7	12
	EB-3824-100-0	max 2,5 mm ² (1 x "+")	max. 16 mm ²	max. 2,5 mm ²	horizontal for standard rail DIN TS35	0.042 kg	12 mm	1	61.2	53.7	64.5	14.8	99.3	51.7	12

Dimension pictures

