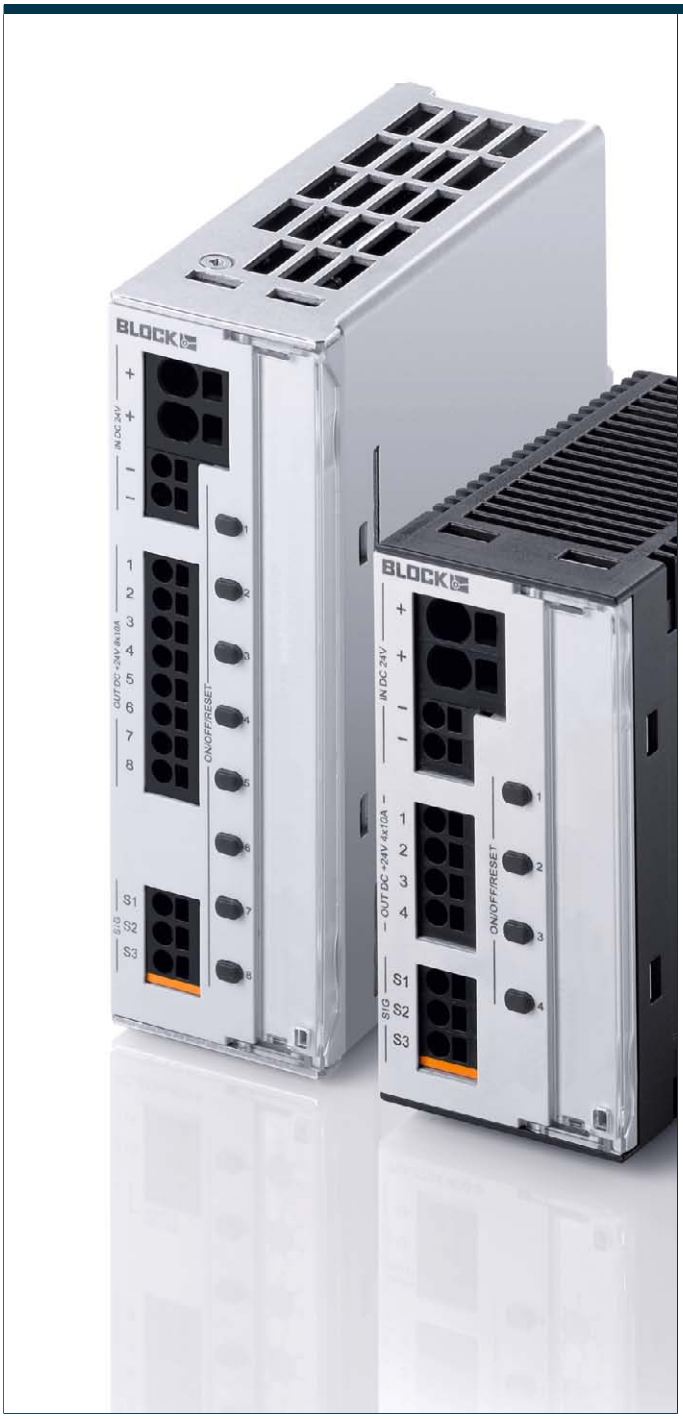
Electronic circuit breaker with thermomagnetic characteristic **ECONOMY REMOTE**



General Data

- Nominal input voltage 24 Vdc
- Output channels 2 / 4 / 8
- Tripping current 2 - 10 A
- Thermomagnetic characteristic
- Operational temperature -25° C ... +70° C
- Protection index IP 20
- Efficiency typ. 99 %

Advantages

- Adjustable tripping current for each output channel via 2-wire-interface
- Ability to turn-on high load capacitance at each channel
- Sequential and load-dependent switching-on of channels
- Comprehensive single-channel-diagnostics and remote switching on/off of each output channel via 2-wire-interface
- Group alarm contact for simple diagnosis

Applications

ECONOMY REMOTE circuit breakers with a thermomagnetic characteristic represent an economical alternative to the classic circuit breaker. They also ensure reliable tripping even in the case of high line resistance. This makes the circuit breakers ideal for use in standard machine production. The electronic circuit breaker distributes and monitors the load current over several current circuits. Overloads and short circuits on an output are reliably recognized. The electronics permit brief current peaks and switch longer overloads off. The tripping current for each output can be individually set in 6 steps only with a higher-level control system (e.g. PLC). The outputs are activated depending on the time delay and load to avoid an overload current. If the rated current is exceeded for a certain amount of time, the output will be switched off automatically and can be reactivated after a waiting time (thermal relaxation) using the pushbutton or the remote signal input S1. The pushbutton can also be used to switch the output manually. It is possible to read out the state of each output using the three signal contacts. The state of each output is also indicated with a multi-colored LED.

Standards

Electronic circuit breaker
UL 508, UL 2367

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

EMC:
EN 61000-6-2, EN 61000-6-3

Safety extra-low voltage (SELV/PELV):
IEC 60364-4-41 (DIN VDE 0100-410)

CE acc. to 2004/108/EG (EMC-Directive)

Approvals

UL 2367 (E-File: E356250)UL 508 (E-File: E219022)GL

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Electrical data

Typ	PM-3724-200-0	PM-3724-400-0	PC-3724-800-0
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 %
Required input voltage for turning-on of outputs	19.5 V (Turn-off Threshold 18 V)	19.5 V (Turn-off Threshold 18 V)	19.5 V (Turn-off Threshold 18 V)
Max. total input current	20 A	40 A	70 A
Max. input current for each pole of terminal	40 A	40 A	40 A
Over voltage protection	Suppressor diode 33 V	Suppressor diode 33 V	Suppressor diode 33 V
Stand-by current	35 mA @ 24 V	35 mA @ 24 V	55 mA @ 24 V
Power losses in stand-by mode	0.84 W @ 24 V	0.84 W @ 24 V	1.32 W @ 24 V
Output			
Output rated voltage	24 Vdc	24 Vdc	24 Vdc
Output rated current	2 x (2, 3, 6, 8,10 A)	4 x (2, 3, 6, 8,10 A)	8 x (2, 3, 6, 8,10 A)
Maximum voltage drop between input and output	200 mV @ 2 x 10 A	200 mV @ 4 x 10 A	200 mV @ 8 x 10 A
Initialization time of module	250 ms	250 ms	250 ms
Turn-on delay of outputs	Load dependent, min. 50 ms / max. 5 s	Load dependent, min. 50 ms / max. 5 s	Load dependent, min. 50 ms / max. 5 s
Waiting periode after switch-off of an output	500 ms (short circuit) . . 10 s (overload)	500 ms (short circuit) . . 10 s (overload)	500 ms (short circuit) . . 10 s (overload)
Max. power losses	5.5 W @ 2 x 10 A	10 W @ 4 x 10 A	20 W @ 8 x 10 A
Efficiency	99.0 %	99.0 %	99.0 %
Internal output fuse	15 A	15 A	15 A
Resistance to reverse feed max.	35 Vdc	35 Vdc	35 Vdc
Parallel use of outputs	Not allowed	Not allowed	Not allowed
Serial use of outputs	Not allowed	Not allowed	Not allowed
Signaling			
Status indicator	LED (red, green, orange)	LED (red, green, orange)	LED (red, green, orange)
Signal input S1	DC 24 V (On/Off/Reset)	DC 24 V (On/Off/Reset)	DC 24 V (On/Off/Reset)
Signal output S2	DC 24 V, max. 25 mA (status output channels)	DC 24 V, max. 25 mA (status output channels)	DC 24 V, max. 25 mA (status output channels)
Signal output S3	DC 24 V, max. 25 mA (Common signalling output)	DC 24 V, max. 25 mA (Common signalling output)	DC 24 V, max. 25 mA (Common signalling output)
Environment			
Storage temperature	-25 °C ... +85 °C	-25 °C ... +85 °C	-25 °C ... +85 °C
Ambient temperature	-25° C ... +70° C	-25° C ... +70° C	-25° C ... +70° C
Derating	-	Max. output current per channel: 10 A Total current (all channels togehther): max. 40A @ 40°C max. 35A @ 50°C max. 25A @ 60°C max. 20A @ 70°C	Max. output current per channel: 10 A Total current (all channels togehther): max. 50A @ 60°C max. 40A @ 70°C
Type of cooling	Natural convection	Natural convection	Natural convection
Required minimum spacing (left/right)	0 mm	0 mm	0 mm
Required minimum spacing (over/under)	40 mm	40 mm	40 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	**PM-3724-200-0**	**PM-3724-400-0**	**PC-3724-800-0**

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Mechanical data

Typ	Mounting position	Terminals signalling (direct plug-in technology Push-in)	Input terminals (2 x "-"), 1) direct plug-in technology Push-in	Input terminals (2 x "+"), 1) direct plug-in technology Push-in	Output terminals ("+ "), direct plug-in technoligy Push-in	Weight	Dimension (W x H x D)	Dimension picture (in mm)	A	B	C	D	E	F
PM-3724-200-0	horizontal for standard rail DIN TS35	max. 2,5 mm²	max. 2,5 mm²	max. 6 mm²	max. 2,5 mm²	0.20 kg	45 x 90 x 90.5 mm	1	90	45	3	45	91.5	99
PM-3724-400-0	horizontal for standard rail DIN TS35	max. 2,5 mm²	max. 2,5 mm²	max. 6 mm²	max. 2,5 mm²	0.20 kg	45 x 90 x 90.5 mm	1	90	45	3	45	91.5	99
PC-3724-800-0	horizontal for standard rail DIN TS35	max. 2,5 mm²	max. 2,5 mm²	max. 6 mm²	max. 2,5 mm²	0.40 kg	42 x 127 x 116.5 mm	1	127	63.5	3	42	116.5	124

Dimension pictures

1