


**Circuit-breaker, Basic device with standard knob, Without overload releases, Screw terminals**

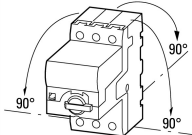
**Part no.** PKE12  
**Catalog No.** 121721  
**Alternate Catalog No.** XTPE012BNL  
**EL-Nummer (Norway)** 4355179

## Delivery program

Product range			PKE motor protective circuit-breakers with electronic wide-range overload protection up to 32 A
Basic function			Motor protection Motor protection for heavy starting duty
Single unit/Complete unit			Basic device with standard knob
			
Notes			Also suitable for motors with efficiency class IE3.
Connection technique			Screw terminals
Setting range of useable overload releases	$I_r$	CSA	0.3 - 12
Function			Without overload releases
Rated uninterrupted current = rated operational current	$I_u = I_e$	A	12

## Technical data

### General

Standards			IEC/EN 60947, VDE 0660, UL, CSA
Climatic proofing			Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Ambient temperature			
Storage		°C	- 40 - 80
Open		°C	-25 - +55
Enclosed		°C	- 25 - 40
Mounting position			
Direction of incoming supply			as required
Degree of protection			
Device			IP20
Terminations			IP00
Protection against direct contact when actuated from front (EN 50274)			Finger and back-of-hand proof
Mechanical shock resistance half-sinusoidal shock 10 ms to IEC 60068-2-27		g	25
Altitude		m	Max. 2000
Terminal capacity main cable			
Screw terminals			
Solid		mm <sup>2</sup>	1 x (1 - 6) 2 x (1 - 6)
Flexible with ferrule to DIN 46228		mm <sup>2</sup>	1 x (1 - 6) 2 x (1 - 6)
Solid or stranded		AWG	14 - 10
Stripping length		mm	10
Specified tightening torque for terminal screws			
Main cable		Nm	1.7
Control circuit cables		Nm	1

### Main conducting paths

Rated impulse withstand voltage	$U_{imp}$	V AC	6000
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Overvoltage category/pollution degree			III/3
Rated operational voltage	$U_e$	V AC	690
Rated uninterrupted current = rated operational current	$I_u = I_e$	A	12
Rated frequency	f	Hz	40 - 60
Current heat loss (3 pole at operating temperature)		W	2.7
Lifespan, mechanical	Operations	$\times 10^6$	0.05
Lifespan, electrical (AC-3 at 400 V)			
Lifespan, electrical	Operations	$\times 10^6$	0.05
Max. operating frequency		Ops/h	60
Motor switching capacity			
AC-3 (up to 690V)		A	12

## Trip blocks

Temperature compensation			
to IEC/EN 60947, VDE 0660		°C	- 5 ... 40
Operating range		°C	- 25 ... 55
Setting range of overload releases		$\times I_u$	0.25 - 1
short-circuit release			Basic device, fixed: $15.5 \times I_u$
Short-circuit release tolerance			$\pm 20\%$
Phase-failure sensitivity			IEC/EN 60947-4-1, VDE 0660 Part 102

## Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	$I_n$	A	12
Heat dissipation per pole, current-dependent	$P_{vid}$	W	0.9
Equipment heat dissipation, current-dependent	$P_{vid}$	W	2.7
Static heat dissipation, non-current-dependent	$P_{vs}$	W	0
Heat dissipation capacity	$P_{diss}$	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	55
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
10.2.2 Corrosion resistance			Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures			Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat			Meets the product standard's requirements.
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects			Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation			Meets the product standard's requirements.
10.2.5 Lifting			Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact			Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions			Meets the product standard's requirements.
10.3 Degree of protection of ASSEMBLIES			Does not apply, since the entire switchgear needs to be evaluated.
10.4 Clearances and creepage distances			Meets the product standard's requirements.
10.5 Protection against electric shock			Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components			Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections			Is the panel builder's responsibility.
10.8 Connections for external conductors			Is the panel builder's responsibility.
10.9 Insulation properties			
10.9.2 Power-frequency electric strength			Is the panel builder's responsibility.
10.9.3 Impulse withstand voltage			Is the panel builder's responsibility.
10.9.4 Testing of enclosures made of insulating material			Is the panel builder's responsibility.
10.10 Temperature rise			The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
10.11 Short-circuit rating			Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.12 Electromagnetic compatibility			Is the panel builder's responsibility. The specifications for the switchgear must be observed.

10.13 Mechanical function			The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.
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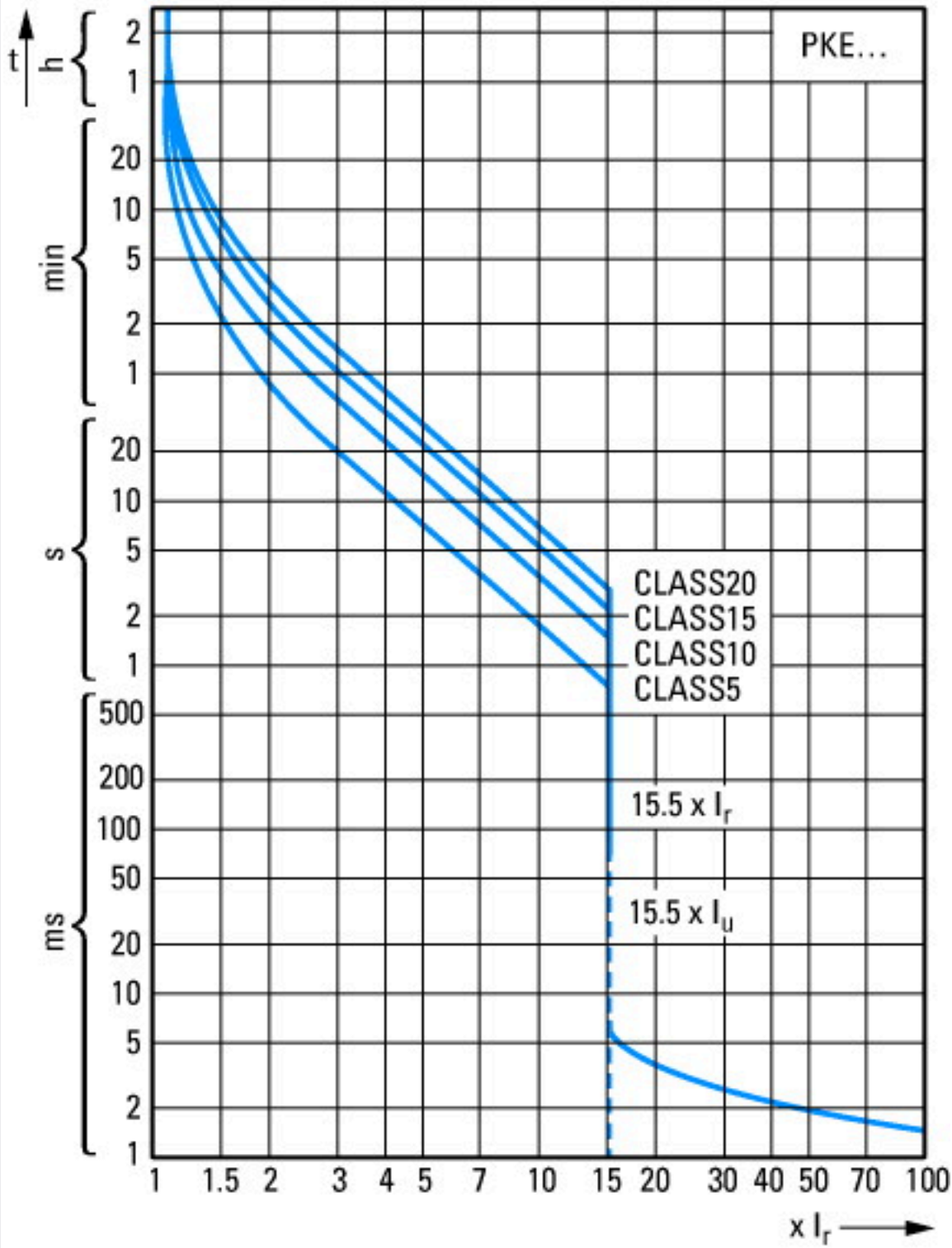
## Technical data ETIM 7.0

Low-voltage industrial components (EG000017) / Motor protection circuit-breaker (EC000074)			
Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Motor protection circuit-breaker (ecl@ss10.0.1-27-37-04-01 [AGZ529016])			
Overload release current setting		A	0 - 0
Adjustment range undelayed short-circuit release		A	0 - 0
With thermal protection			No
Phase failure sensitive			No
Switch off technique			Electronic
Rated operating voltage		V	690 - 690
Rated permanent current I <sub>u</sub>		A	12
Rated operation power at AC-3, 230 V		kW	0
Rated operation power at AC-3, 400 V		kW	0
Type of electrical connection of main circuit			Screw connection
Type of control element			Turn button
Device construction			Built-in device fixed built-in technique
With integrated auxiliary switch			No
With integrated under voltage release			No
Number of poles			3
Rated short-circuit breaking capacity I <sub>cu</sub> at 400 V, AC		kA	0
Degree of protection (IP)			IP20
Height		mm	102.5
Width		mm	45
Depth		mm	102.5

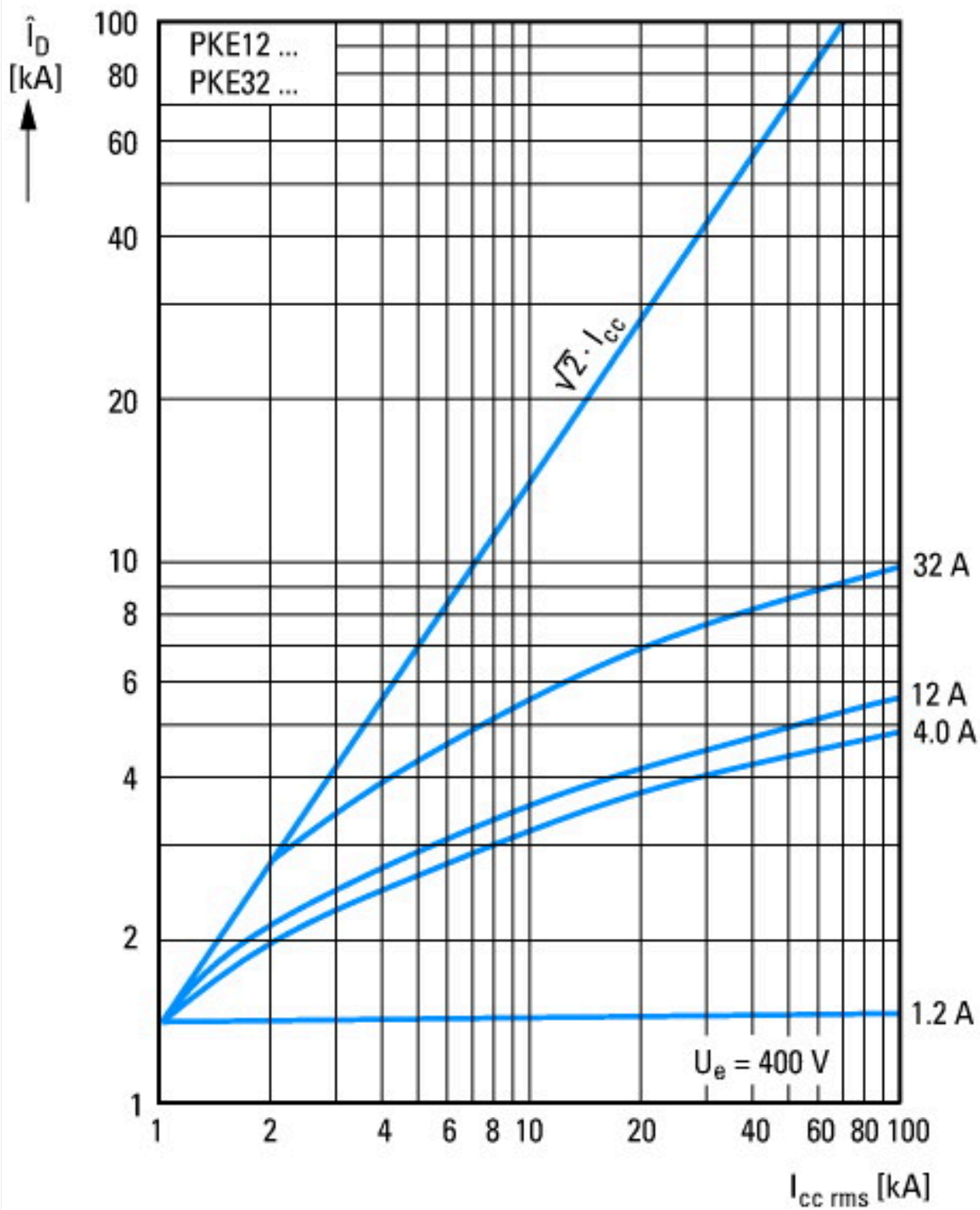
## Approvals

Product Standards			IEC/EN 60947-4-1; UL 60947-4-1; CSA - C22.2 No. 60947-4-1-14; CE marking
UL File No.			E36332
UL Category Control No.			NLRV
CSA File No.			165628
CSA Class No.			3211-05
North America Certification			UL listed, CSA certified
Specially designed for North America			No

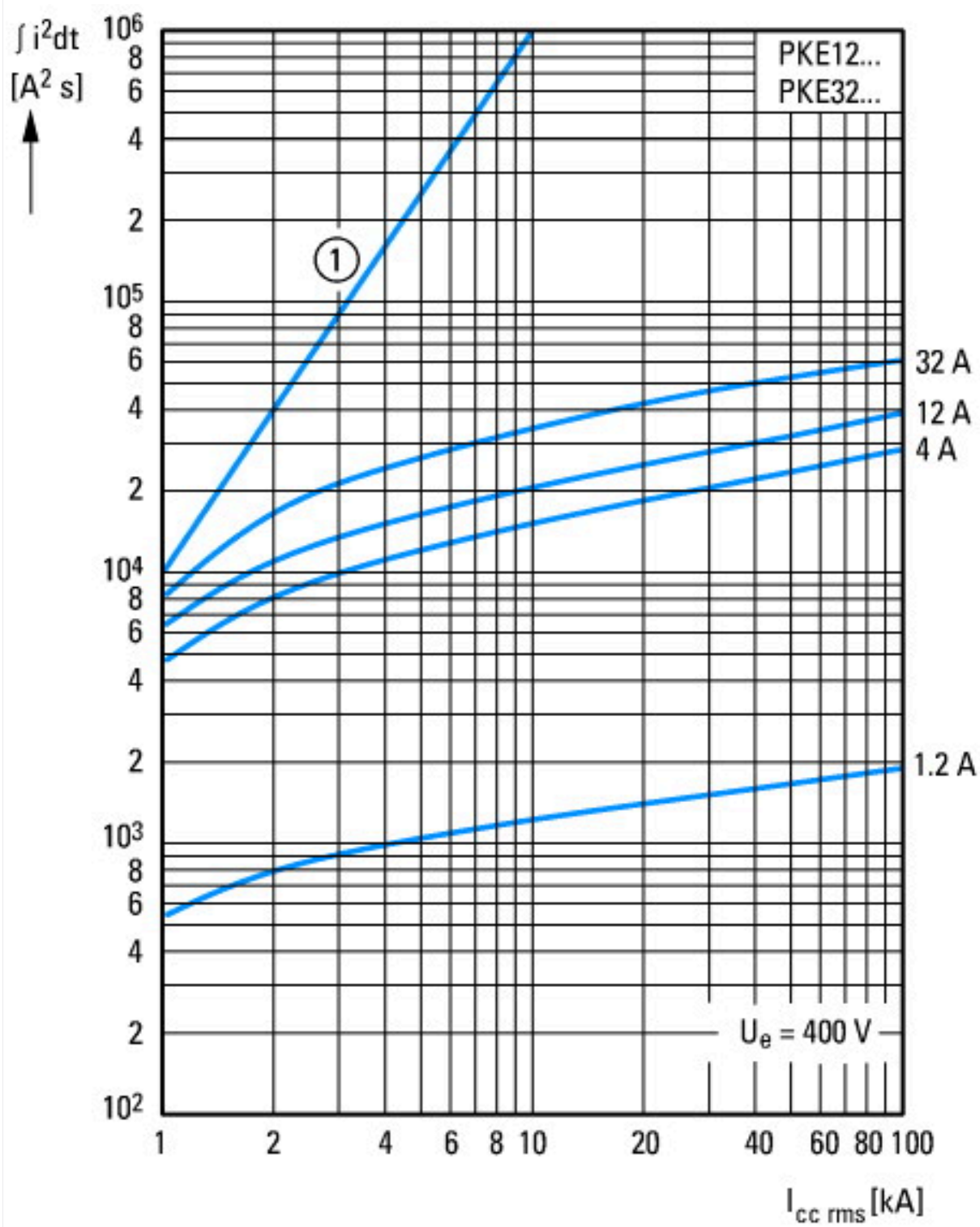
Characteristics



Tripping characteristics

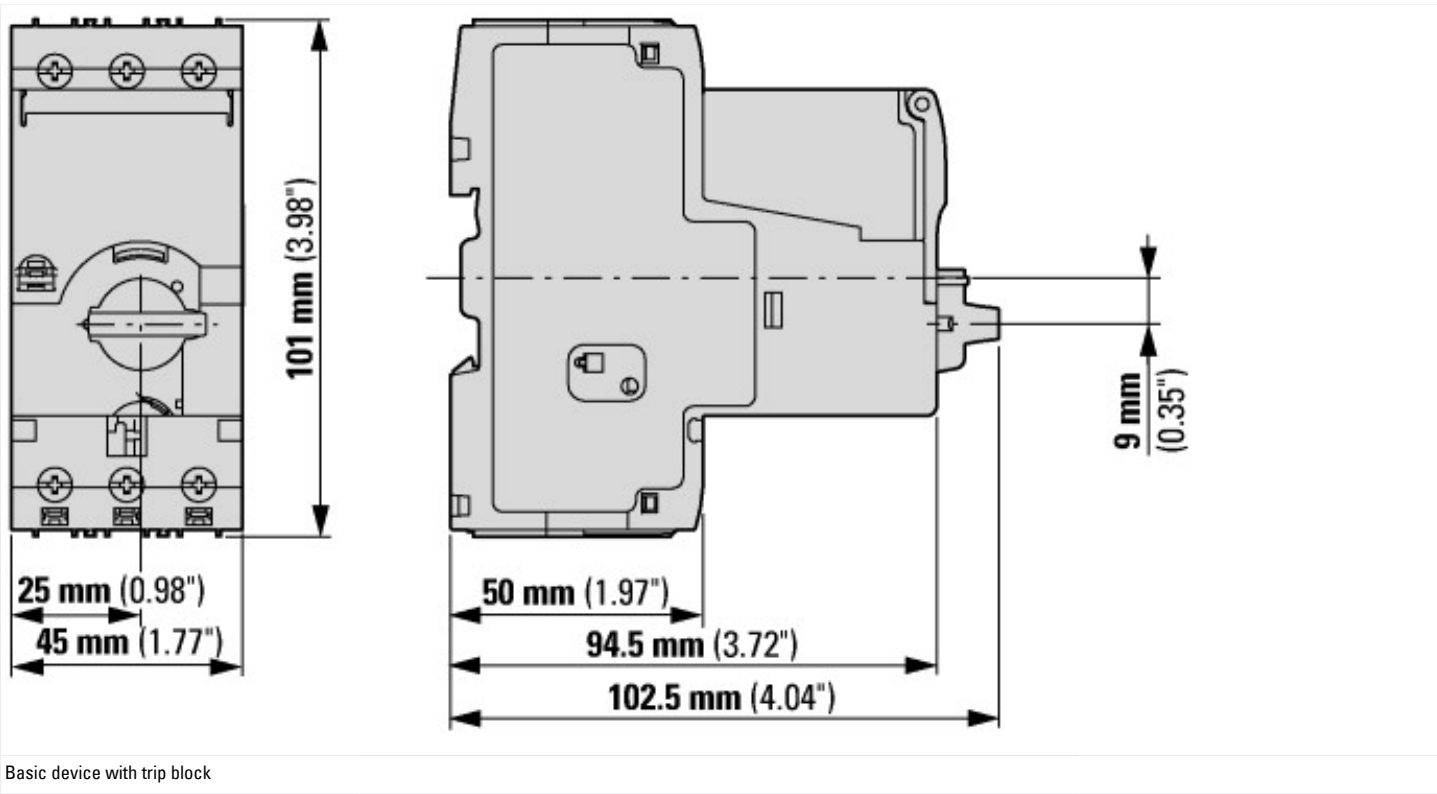


Let-through current



① 1 half-cycle  
Let-through energy

Dimensions



Additional product information (links)

Schaltvermögen	<a href="http://de.ecat.eaton.com/flip-cat/?edition=HPLTEv1&amp;startpage=">http://de.ecat.eaton.com/flip-cat/?edition=HPLTEv1&amp;startpage=</a>
Motor starters and "Special Purpose Ratings" for the North American market	<a href="http://www.eaton.eu/ecm/groups/public/@pub/@europe/@electrical/documents/content/pct_3258146.pdf">http://www.eaton.eu/ecm/groups/public/@pub/@europe/@electrical/documents/content/pct_3258146.pdf</a>
Busbar Component Adapters for modern Industrial control panels	<a href="http://www.moeller.net/binary/ver_techpapers/ver960en.pdf">http://www.moeller.net/binary/ver_techpapers/ver960en.pdf</a>