

The information furnished is believed to be accurate and reliable. However, E-T-A assumes no responsibility for its use. In the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without notice is reserved.

The copying, distribution and utilization of this document as well as the communication of its contents to others without expressed authorization is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or ornamental design registration. Protection mark according to DIN 34.

				Overcurrent Circuit Breaker thermal trip 3120-...-..T1-.. one and two pole				Data Sheet 382.073.468 sheet 1 of 37																																																																					
Replacing data sheet dated 382.073.468 24. Oct. 1997																																																																													
Technical data				to EN 60 934																																																																									
Max.voltage rating				AC 240V / DC 50 V, AC 415V																																																																									
Rated insulation voltage				AC 415 V																																																																									
Current rating range				0.1 20A 1 and 2 pole																																																																									
Current ratings				0.1; 0.2; 0.3; 0.4; 0.5; 0.6; 0.8; 1.0; 1.2; 1.5; 2.0; 2.5; 3.0; 3.5; 4.0; 4.5; 5.0; 6.0; 7.0; 8.0; 10.0; 12.0; 14.0; 15.0; 16.0; 18.0; 20A																																																																									
Reference ambient temperature				-30°C ... +60°C (T60)																																																																									
Effect of the ambient temperature on the tripping characteristics				Temperature (°C)		-30	-20	-10	-5	+10																																																																			
				Factor		0.80	0.84	0.88	0.90	0.94																																																																			
				Temperature (°C)		+23	+30	+40	+50	+60																																																																			
				Factor		1.0	1.03	1.08	1.14	1.23																																																																			
Creepage resistance				PTI 400																																																																									
Method of operation				S-type																																																																									
Mode of tripping				TO / positively trip free																																																																									
Typical electrical operational values																																																																													
Voltage drop in V at 1 I _N				<table><tr><td>I_N (A)</td><td>0.1</td><td>0.2</td><td>0.3</td><td>0.4</td><td>0.5</td><td>0.6</td><td>0.8</td><td>1.0</td><td>1.2</td><td>1.5</td></tr><tr><td>V</td><td>9.4</td><td>4.8</td><td>3.6</td><td>2.2</td><td>2.2</td><td>1.8</td><td>1.8</td><td>0.9</td><td>1.0</td><td>0.7</td></tr><tr><td>I_N (A)</td><td>2.0</td><td>2.5</td><td>3.0</td><td>3.5</td><td>4.0</td><td>4.5</td><td>5.0</td><td>6.0</td><td>7.0</td><td>8.0</td></tr><tr><td>V</td><td>0.6</td><td>0.2</td><td>0.18</td><td>0.2</td><td>0.17</td><td>0.2</td><td>0.16</td><td>0.13</td><td>0.12</td><td>0.13</td></tr><tr><td>I_N (A)</td><td>9.0</td><td>10.0</td><td>12.0</td><td>14.0</td><td>15.0</td><td>16.0</td><td>18.0</td><td>20.0</td><td></td><td></td></tr><tr><td>V</td><td>0.1</td><td>0.13</td><td>0.11</td><td>0.11</td><td>0.12</td><td>0.12</td><td>0.12</td><td>0.11</td><td></td><td></td></tr></table>								I _N (A)	0.1	0.2	0.3	0.4	0.5	0.6	0.8	1.0	1.2	1.5	V	9.4	4.8	3.6	2.2	2.2	1.8	1.8	0.9	1.0	0.7	I _N (A)	2.0	2.5	3.0	3.5	4.0	4.5	5.0	6.0	7.0	8.0	V	0.6	0.2	0.18	0.2	0.17	0.2	0.16	0.13	0.12	0.13	I _N (A)	9.0	10.0	12.0	14.0	15.0	16.0	18.0	20.0			V	0.1	0.13	0.11	0.11	0.12	0.12	0.12	0.11		
I _N (A)	0.1	0.2	0.3	0.4	0.5	0.6	0.8	1.0	1.2	1.5																																																																			
V	9.4	4.8	3.6	2.2	2.2	1.8	1.8	0.9	1.0	0.7																																																																			
I _N (A)	2.0	2.5	3.0	3.5	4.0	4.5	5.0	6.0	7.0	8.0																																																																			
V	0.6	0.2	0.18	0.2	0.17	0.2	0.16	0.13	0.12	0.13																																																																			
I _N (A)	9.0	10.0	12.0	14.0	15.0	16.0	18.0	20.0																																																																					
V	0.1	0.13	0.11	0.11	0.12	0.12	0.12	0.11																																																																					
Insulation coordination (IEC 664 and 664A)				Rated impulse withstand voltage / Pollution degree <table><tr><td>max</td><td>EN 60 934</td></tr><tr><td>4kV / 3</td><td>2.5KV / 2</td></tr></table>								max	EN 60 934	4kV / 3	2.5KV / 2																																																														
max	EN 60 934																																																																												
4kV / 3	2.5KV / 2																																																																												
Dielectric strength (IEC 664 and 664A)				test voltage, AC <table><tr><td>max.</td><td>EN 60 934</td></tr><tr><td>4000 V</td><td>3000 V</td></tr><tr><td>2000 V</td><td>1500 V</td></tr><tr><td>2000 V</td><td>1500 V</td></tr></table>								max.	EN 60 934	4000 V	3000 V	2000 V	1500 V	2000 V	1500 V																																																										
max.	EN 60 934																																																																												
4000 V	3000 V																																																																												
2000 V	1500 V																																																																												
2000 V	1500 V																																																																												
operating area (reinforced insulation, sheet 23)																																																																													
mounting area (sheet 23)																																																																													
pole / pole (2-pole)																																																																													
Insulation resistance				> 100 MΩ (DC 500 V)																																																																									
Minimum load (main circuit)				DC 10 V / 100 mA																																																																									



Overcurrent Circuit Breaker
thermal trip
3120-...-T1-..
one and two pole

Data Sheet
382.073.468
sheet 2 of 37

Operating cycles

Behaviour at rated current (EN 60 934, test sequence C)

	mechanical	electrical, 1 I _N	
1 pole	50 000	0.1 - 16A, AC 240, cosφ 0.95	30,000
		> 16A, AC 240, cosφ 0.95	10,000
		0.1 - 10A, DC, L/R = 0 ms	30,000
		12 - 16A, DC 28V, L/R = 0 ms	30,000
		> 16A, DC 28V, L/R = 0 ms	10,000
2 pole	50 000	0.1 - 16A, AC 240, cosφ 0.95	50,000
		0.1 - 16A, DC, L/R = 0 ms	50,000
		> 16A, AC 240, cosφ 0.95	10,000
		> 16A, DC, L/R = 0 ms	10,000
2 pole	10 000	0.1 - 16A, AC 415, cosφ 0.95	10,000

Behavior at rated switching capacity (40 cycles)
(EN 60 934, test sequence D)

AC; 6 I _N power factor 0.6	DC; 4 I _N time constant 2.5 ms
0.1 ... 20A, 1 pole / AC 240	0.1 ... 10A, 1 pole DC 50V
0.1 ... 20A, 2 pole / AC 240	0.1 ... 20A, 2 pole DC 50V
0.1 ... 16A, 2 pole / AC 415	0.1 ... 20A, 1 pole DC 28V

Rated short-circuit capacity I_{cn}
(EN 60 934, test sequence E)

	I _N	U _N	I _{cn}
1 and 2 pole	0.1 ... 2A	AC 240 V	10 x I _N
1 pole	2.5 ... 20 A	AC 240 V	200 A
2 pole	2.5 ... 20 A	AC 240 V	300 A
1 and 2 pole	0.1 ... 2A	DC 50V	10 x I _N
1 pole	2.5 ... 10A	DC 50V	50 A
2 pole	2.5 ... 20A	DC 50 V	250 A
1 pole	2.5 ... 20 A	DC 28 V	200 A
2 pole	2.5 ... 20 A	DC 28 V	300 A

Rated conditional short-circuit current I_{nc}
(EN 60 934, PC 1 / UL 1077, § 21)

	I _N	U _N	I _{nc}
1 and 2 pole	0.1 ... 16 A	AC 240 V	3500A
2 pole	18 ... 20 A	AC 125 V	3500A
1 and 2 pole	0.1 ... 20 A	DC 50 V	200A

The current rating of the back-up fuse to IEC 269 (DIN VDE 0636) shall be four times the current rating of the curcuit breaker, but at least 15A.

Typical mechanical values

Operating force

	rocker	push button
ON	15 N	18 N
OFF	5 N	6 N
Operating force with X3120-U		
ON	23 N	29 N
OFF	8 N	9 N

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				

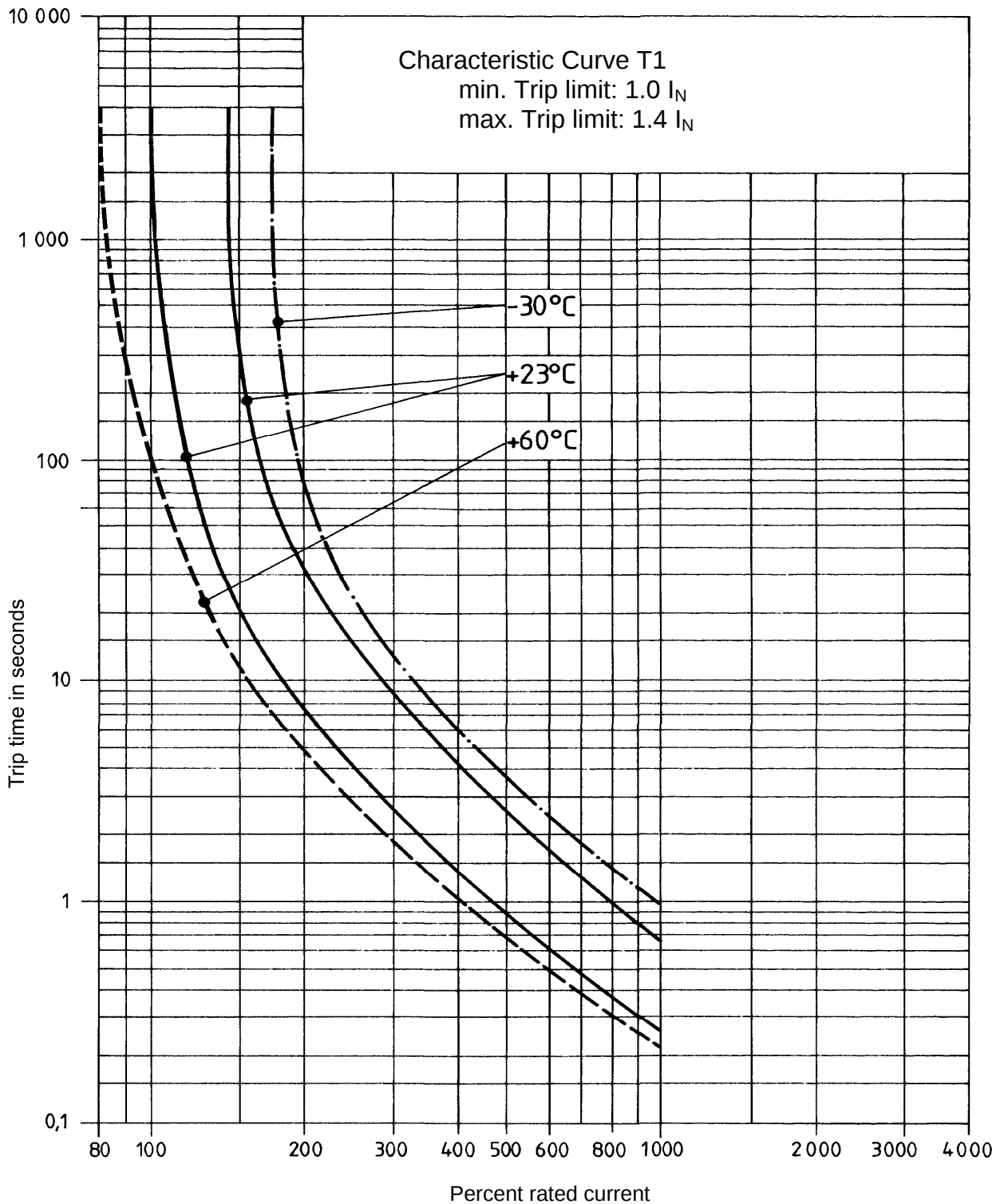
The information furnished is believed to be accurate and reliable. However, E-T-A assumes no responsibility for its use. In the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without notice is reserved.

The copying, distribution and utilization of this document as well as the communication of its contents to others without expressed authorization is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or ornamental design registration. Protection mark according to DIN 34.

				Overcurrent Circuit Breaker thermal trip 3120-...-...T1-.. one and two pole				Data Sheet 382.073.468 sheet 3 of 37							
Mounting values								200 N max. insertion							
Blade terminals P70								80 N max. insertion 80 N max. withdrawal							
Terminal screws								0.55 N max. tightening torque							
Mass								approx. 27 g 1 pole approx. 31 g 2 pole							
Environmental tests (typical values)															
Vibration (sinusoidal) to DIN IEC 68-2-6, test Fc, 10 frequency cycles / axis								± 0.61 mm (10 - 57 Hz), 8g (57 - 500 Hz)							
Shock to DIN IEC 68-2-27, test Ea								30 g (11ms)							
Corrosion to DIN IEC 68-2-11, test Ka								96 hours at 5% salt mist							
Humidity to DIN IEC 68-2-3, test Ca								240 hours at 95% RH, 40°C							
Degree of protection (IEC 529 / DIN 40 050) operating area terminal area								IP 40 (IP 54 with splash cover) IP 00							
Temperature limits								on duty				storage			
								- 30° C ...+ 60° C				- 40° C ...+ 80° C			
Approval logos								see marking instructions							
Note:															
Time / current characteristic curve								see sheets 4 / 5							
Dimensions								see sheet 6							
Rocker / button variants								see sheets 7 / 8							
Flange dimensions								see sheets 9 - 26							
Connection variants and internal connetion diagram								see sheet 27							
Installation								see sheet 28							
Order numbering code								see sheets 29 - 37							



Type of current: AC / DC
Current rating range: 0.1 - 2A



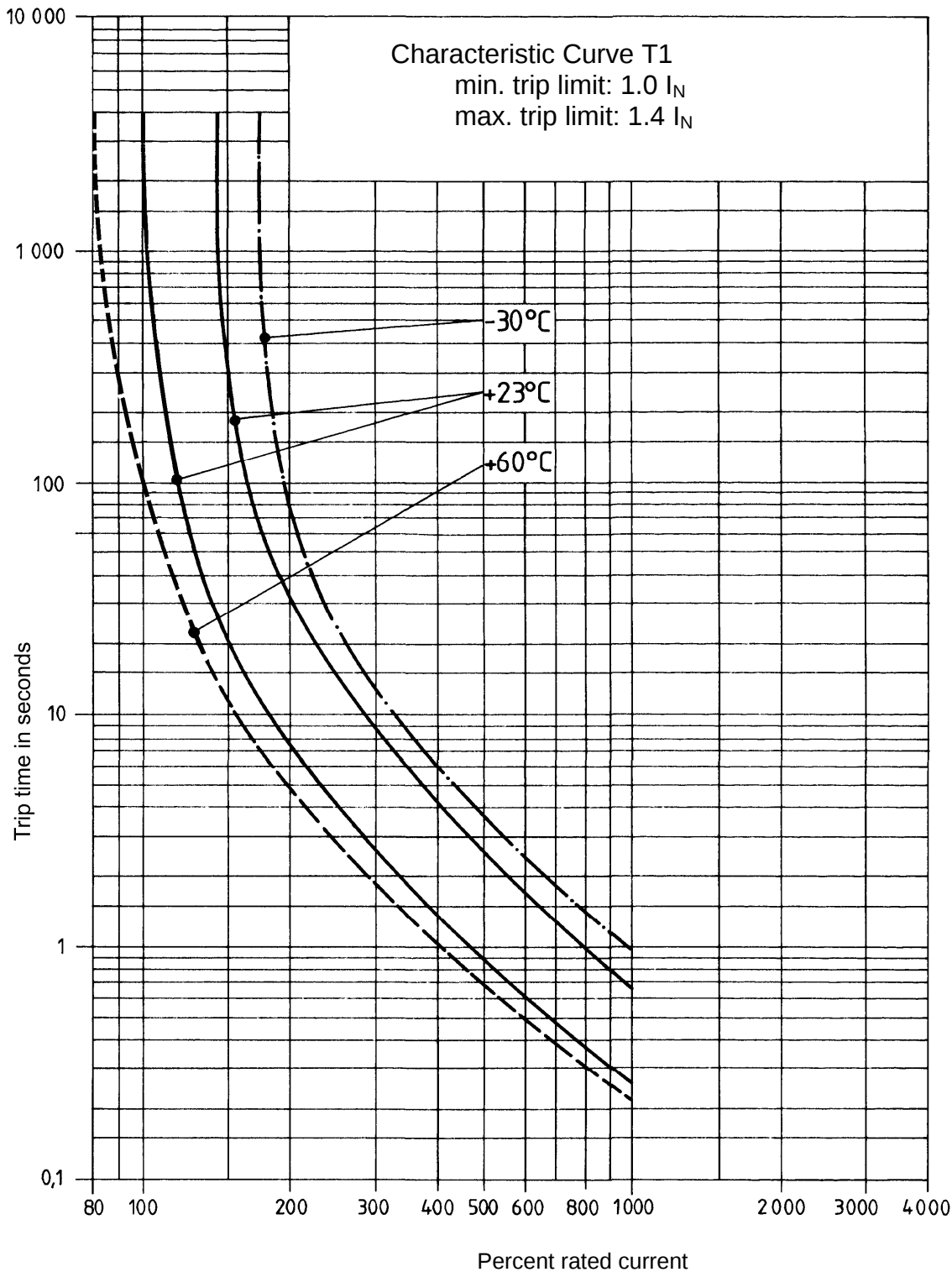
Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				



Overcurrent Circuit Breaker
thermal trip
3120-...-..T1-..
one and two pole

Data Sheet
382.073.468
sheet 5 of 37

Type of current: AC / DC
Current rating range: 2.5 - 20A



Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				

The information furnished is believed to be accurate and reliable. However no responsibility for its use. In the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without noti

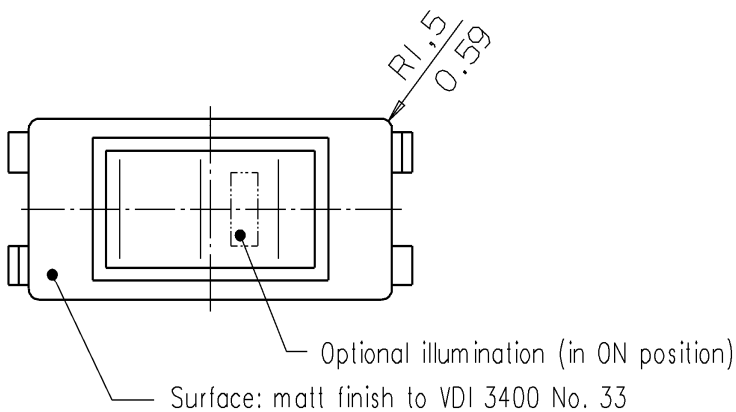
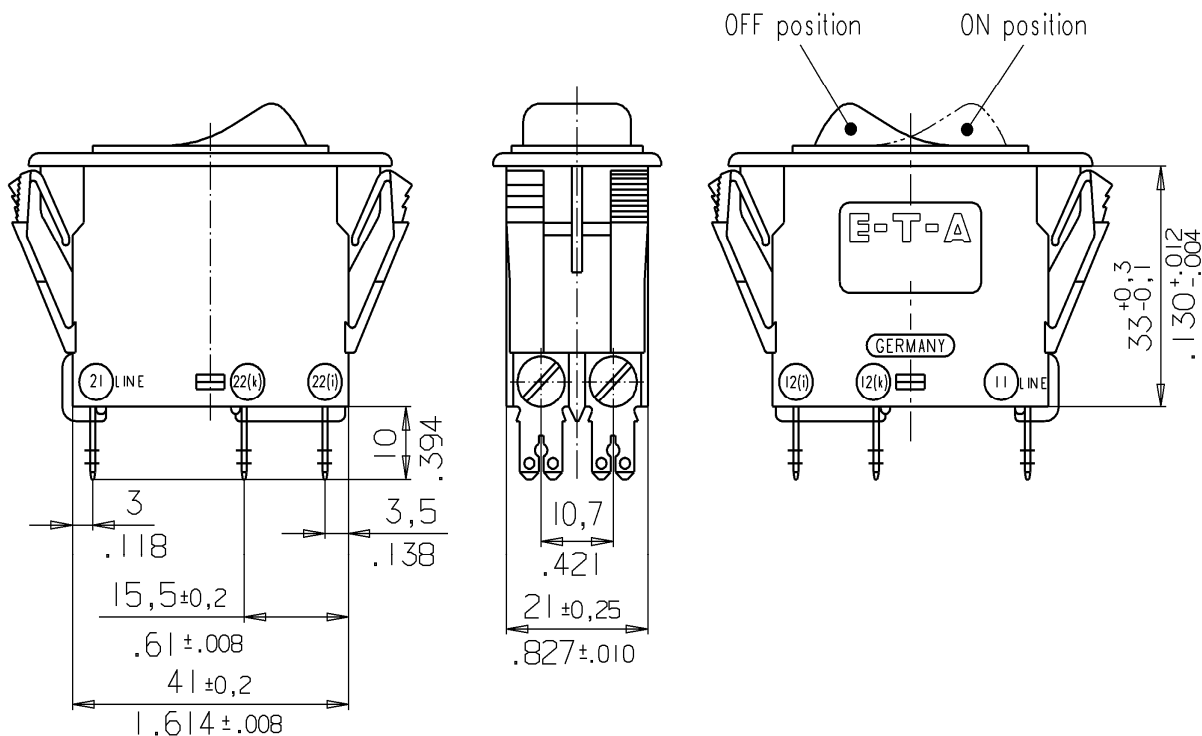
The copying, distribution and utilization of this document as well as the communication of its contents to others without expressed authorization is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or ornamental design registration. Protection mark according to DIN 34.



Overcurrent Circuit Breaker
thermal trip
3120-...-..T1-..
one and two pole

Data Sheet
382.073.468
sheet 6 of 37

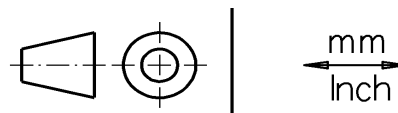
3120-F- - - - -
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27



Nominal dimensions without direct tolerance indication: $\pm IT13$
For dimensions of other flange versions see sheets 7-22
This is a metric design and millimeter dimensions take precedence

1:1

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				



The information furnished is believed to be accurate and reliable. However, E-T-A assumes no responsibility for its use. In the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without notice is reserved.

The copying, distribution and utilization of this document as well as the communication of its contents to others without expressed authorization is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or ornamental design registration. Protection mark according to DIN 34.

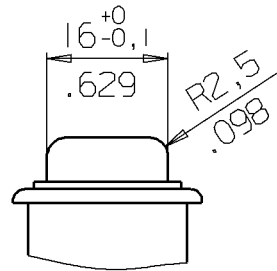
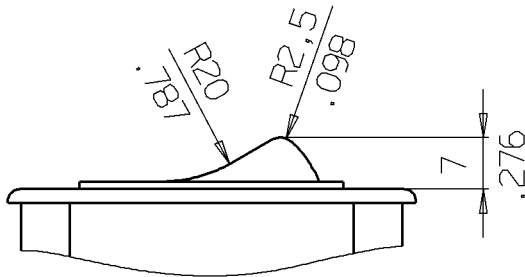


Overcurrent Circuit Breaker
thermal trip
3120-...-T1-..
one and two pole

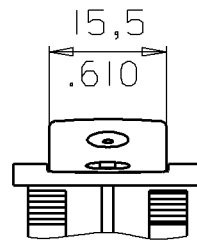
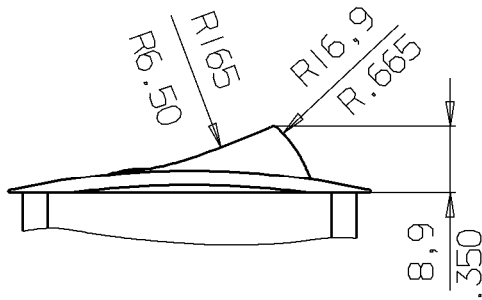
Data Sheet
382.073.468
sheet 7 of 37

3 1 2 0 - F - - - - - W - - - - -
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27

3 1 2 0 - F - - - - - M - - - - -
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27



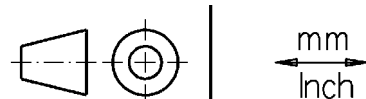
3 1 2 0 - F - - - - - A - - - - -
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27



1:1

This is a metric design and millimeter dimensions take precedence

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				



The information furnished is believed to be accurate and reliable. However no responsibility for its use. In the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without not

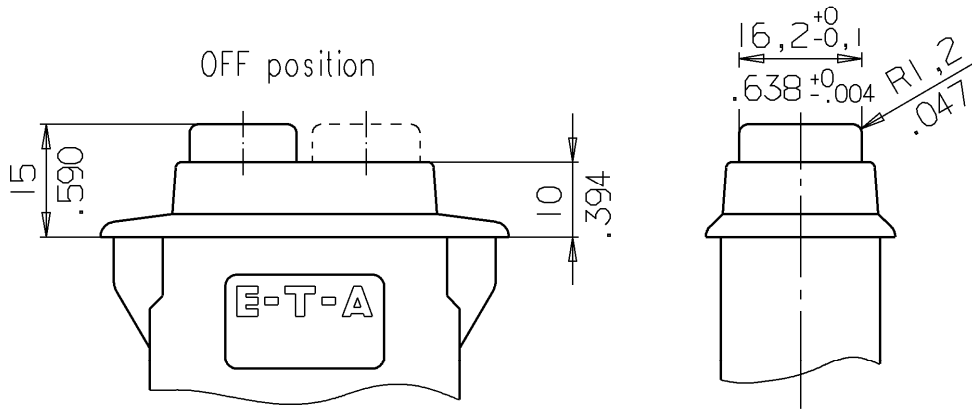
The copying, distribution and utilization of this document as well as the communication of its contents to others without expressed authorization is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or ornamental design registration. Protection mark according to DIN 34.



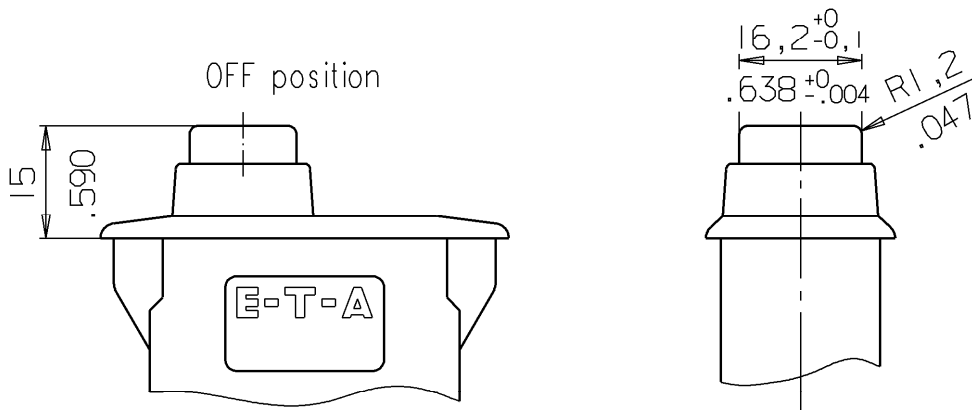
Overcurrent Circuit Breaker
thermal trip
3120-...-..T1-..
one and two pole

Data Sheet
382.073.468
sheet 8 of 37

3 1 2 0 - F - - - - - S - - - - -
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27

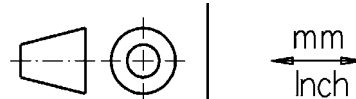


3 1 2 0 - F - - - - - D - - - - -
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27



1 : 1

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				



The information furnished is believed to be accurate and reliable. However no responsibility for its use. In the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without noti

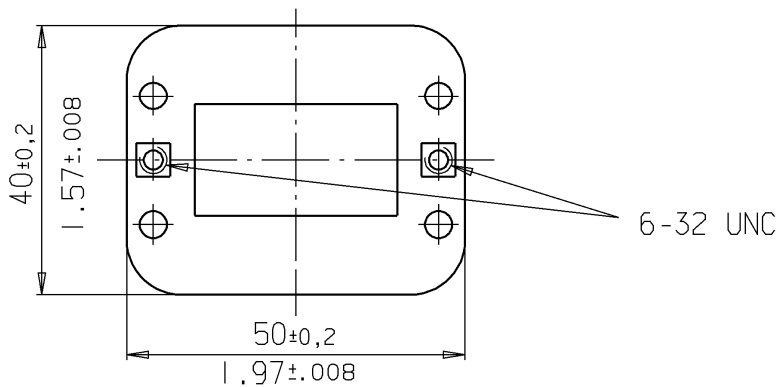
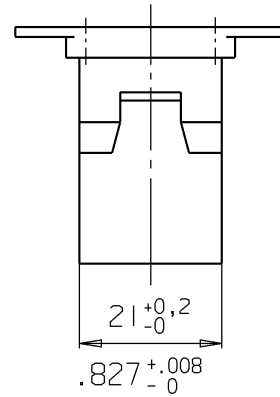
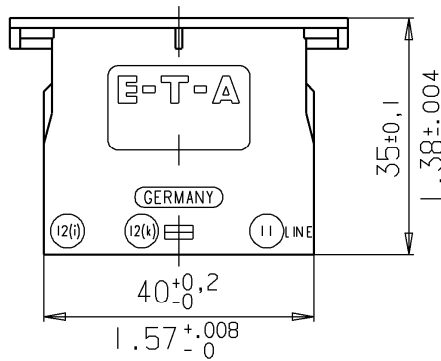
The copying, distribution and utilization of this document as well as the communication of its contents to others without expressed authorization is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or ornamental design registration. Protection mark according to DIN 34.



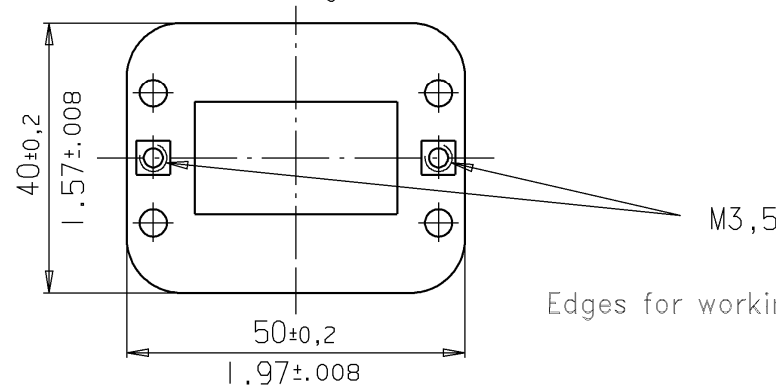
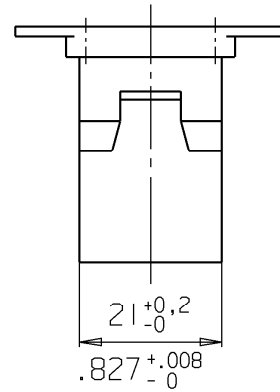
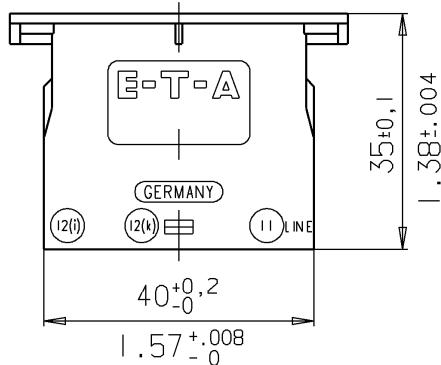
Overcurrent Circuit Breaker
thermal trip
3120-...-..T1-..
one and two pole

Data Sheet
382.073.468
sheet 9 of 37

F 1 6
6 7 8 9



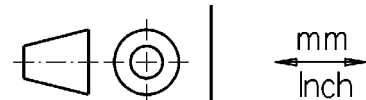
F 1 7
6 7 8 9



This is a metric design and millimeter dimensions take precedence
Nominal dimensions without direct tolerance indication: ± IT 13

1 : 1

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				



The information furnished is believed to be accurate and reliable. However no responsibility for its use. In the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without noti

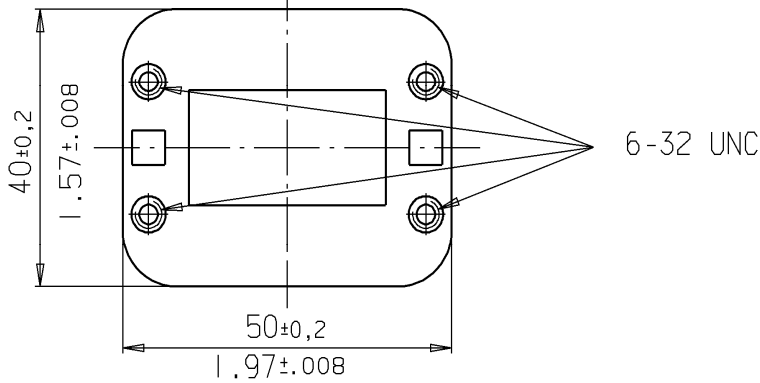
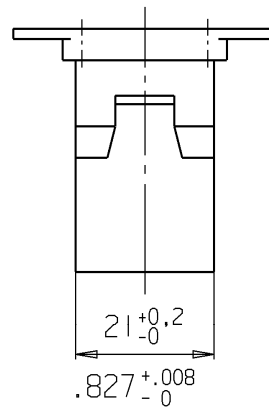
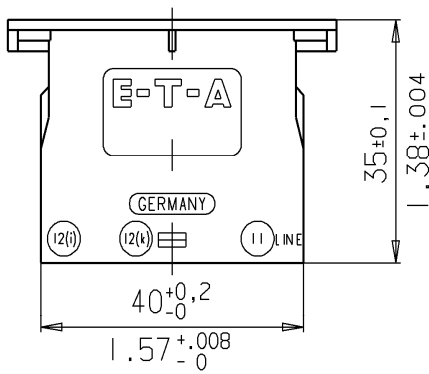
The copying, distribution and utilization of this document as well as the communication of its contents to others without expressed authorization is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or ornamental design registration. Protection mark according to DIN 34.



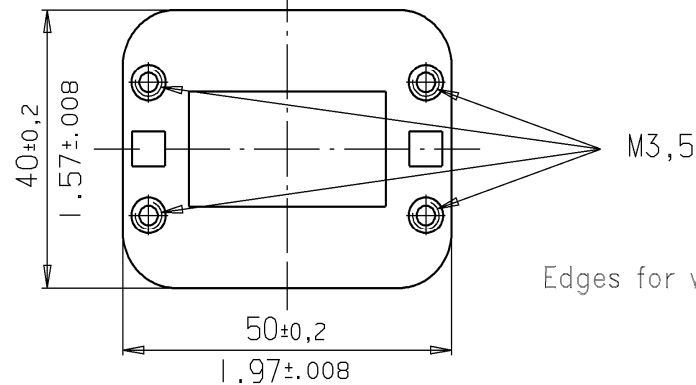
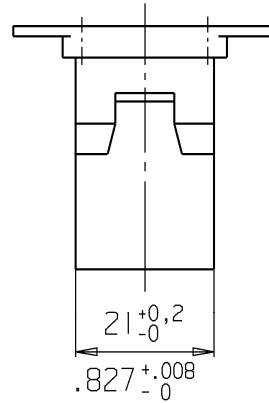
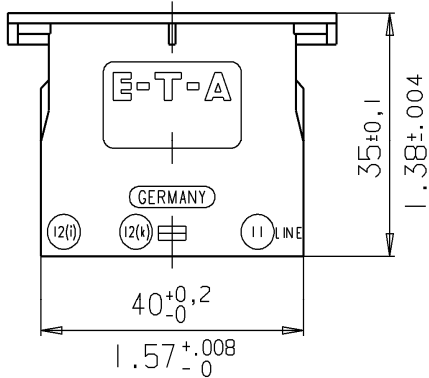
Overcurrent Circuit Breaker
thermal trip
3120-...-..T1-..
one and two pole

Data Sheet
382.073.468
sheet 10 of 37

F 1 8
6 7 8 9



F 1 9
6 7 8 9

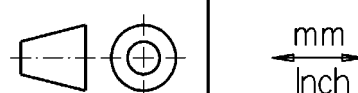


Edges for working parts: DIN 6784

1:1

This is a metric design and millimeter dimensions take precedence
Nominal dimensions without direct tolerance indication: $\pm$ IT 13

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				



The information furnished is believed to be accurate and reliable. However no responsibility for its use. In the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without notice is reserved.

The copying, distribution and utilization of this document as well as the communication of its contents to others without expressed authorization is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or ornamental design registration. Protection mark according to DIN 34.

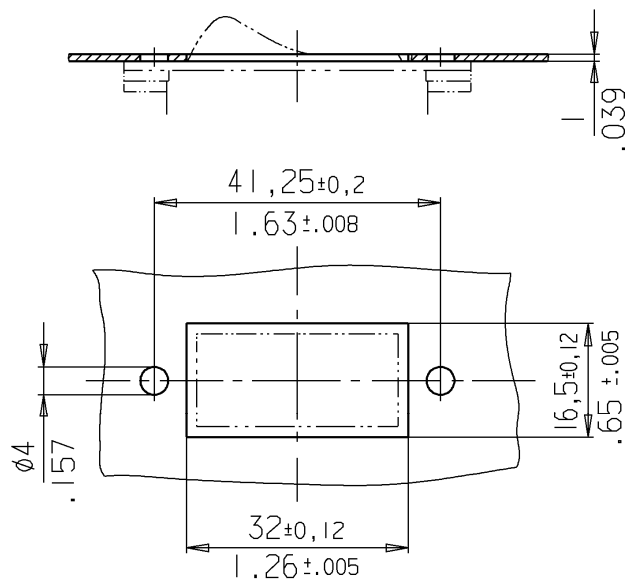


Overcurrent Circuit Breaker
thermal trip
3120-...-T1-...
one and two pole

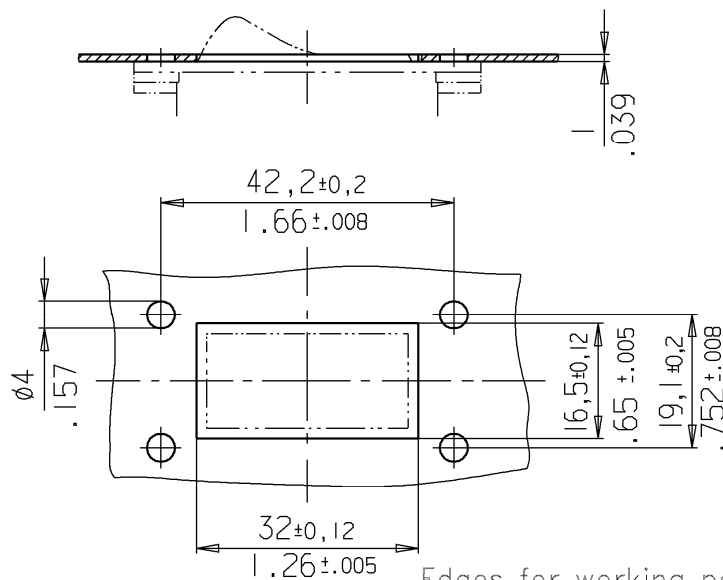
Data Sheet
382.073.468
sheet 11 of 37

This is a metric design and millimeter dimensions take precedence

Panel cut-out F1.6 / F1.7



Panel cut-out F1.8 / F1.9

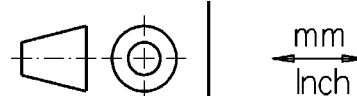


Edges for working parts: DIN 6784

Nominal dimensions without direct tolerance indication: ± IT 13

1:1

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				



The information furnished is believed to be accurate and reliable. However no responsibility for its use. In the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without not

The copying, distribution and utilization of this document as well as the communication of its contents to others without expressed authorization is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or ornamental design registration. Protection mark according to DIN 34.



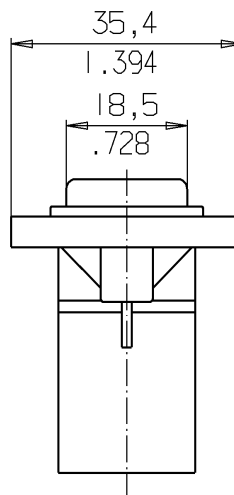
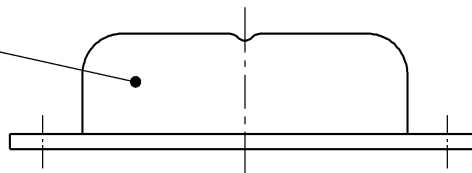
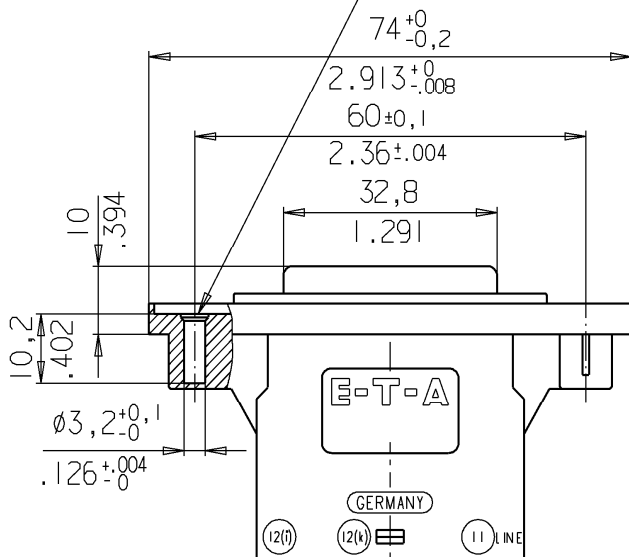
Overcurrent Circuit Breaker
thermal trip
3120-...-T1-..
one and two pole

Data Sheet
382.073.468
sheet 12 of 37

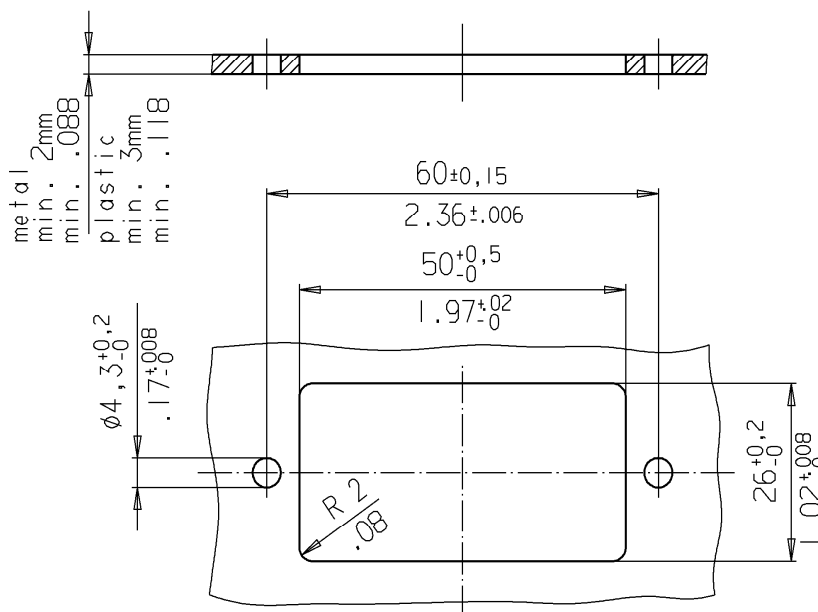
F 2 1 F
6 7 8 9

water splashcover
Y30600101

hole for PT-screw K40



Panel cut-out



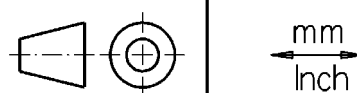
Edges of working parts: DIN 6784

Nominal dimensions without direct tolerance indication: $\pm IT 13$

1:1

This is a metric design and millimeter dimensions take precedence

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				



The information furnished is believed to be accurate and reliable. However no responsibility for its use. In the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without noti

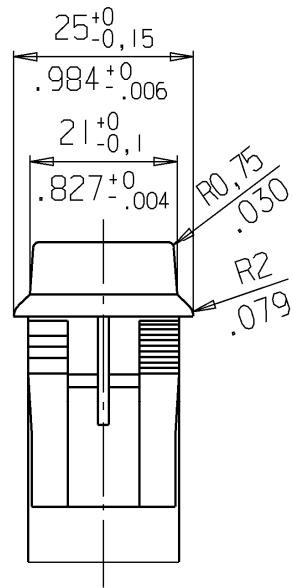
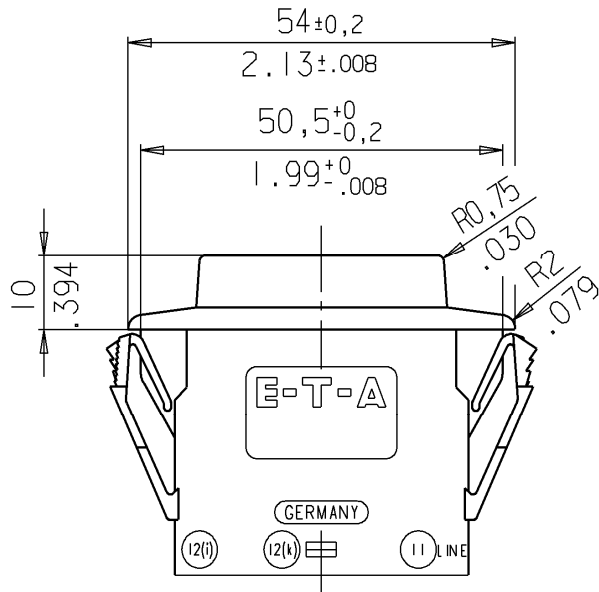
The copying, distribution and utilization of this document as well as the communication of its contents to others without expressed authorization is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or ornamental design registration. Protection mark according to DIN 34.



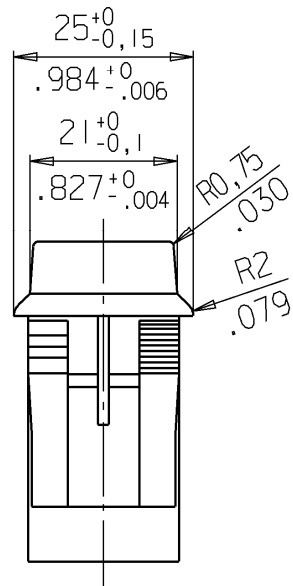
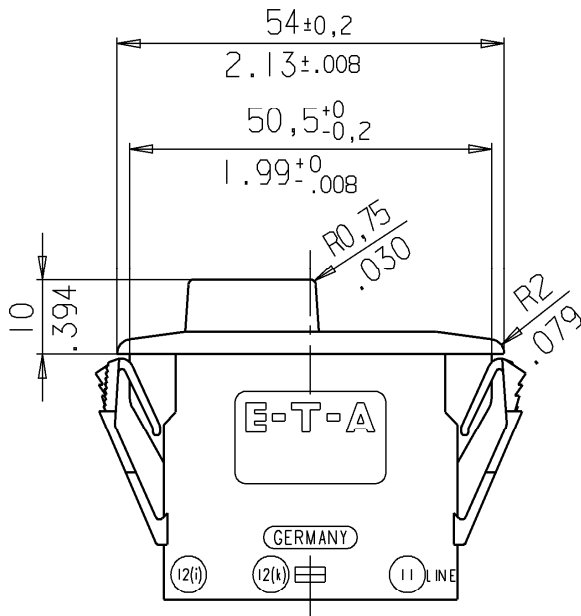
Overcurrent Circuit Breaker
thermal trip
3120-...-..T1-..
one and two pole

Data Sheet
382.073.468
sheet 13 of 37

F 3 . F
6 7 8 9



F 3 . G
6 7 8 9



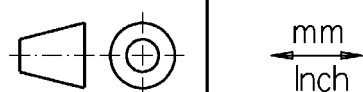
This is a metric design and millimeter dimensions take precedence

Edges for working parts: DIN 6784

Nominal dimensions without direct tolerance indication: $\pm IT 13$

1 : 1

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				



The information furnished is believed to be accurate and reliable. However no responsibility for its use. In the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without noti

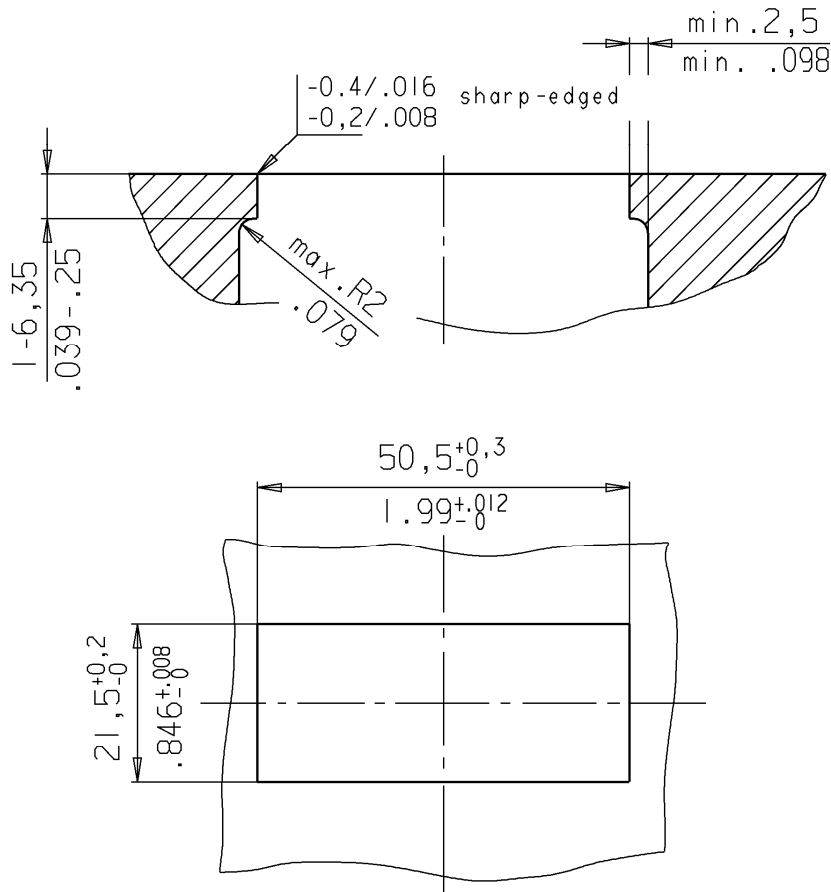
The copying, distribution and utilization of this document as well as the communication of its contents to others without expressed authorization is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or ornamental design registration. Protection mark according to DIN 34.



Overcurrent Circuit Breaker
thermal trip
3120-...-..T1-..
one and two pole

Data Sheet
382.073.468
sheet 14 of 37

Panel cut-out F3.F / F3.G



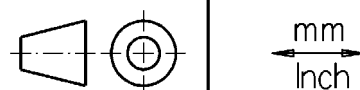
Edges of working parts: DIN 6784

This is a metric design and millimeter dimensions take precedence

Nominal dimensions without direct tolerance indication: $\pm IT 13$

1:1

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				



The information furnished is believed to be accurate and reliable. However no responsibility for its use. In the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without not

The copying, distribution and utilization of this document as well as the communication of its contents to others without expressed authorization is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or ornamental design registration. Protection mark according to DIN 34.

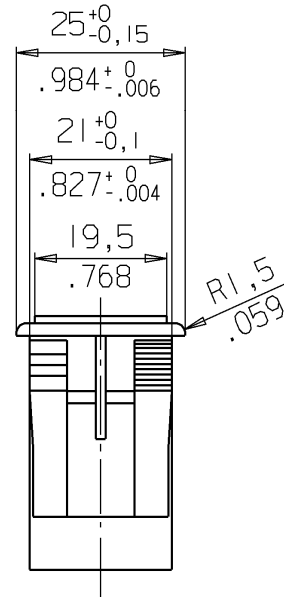
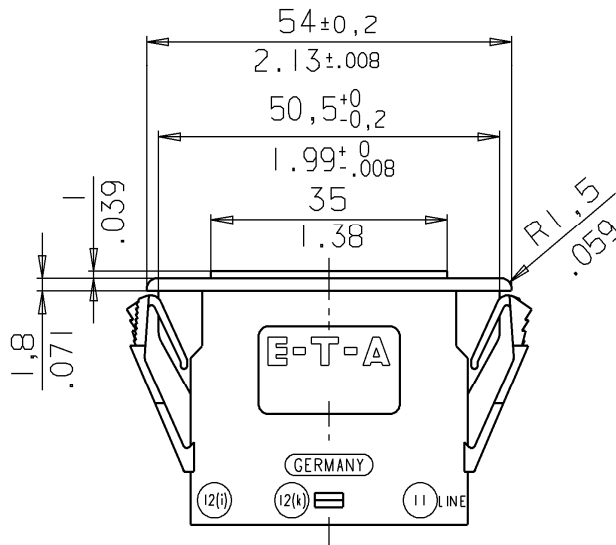


Overcurrent Circuit Breaker
thermal trip
3120-...-..T1-..
one and two pole

Data Sheet
382.073.468
sheet 15 of 37

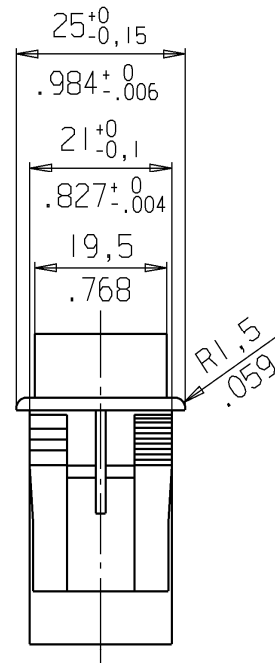
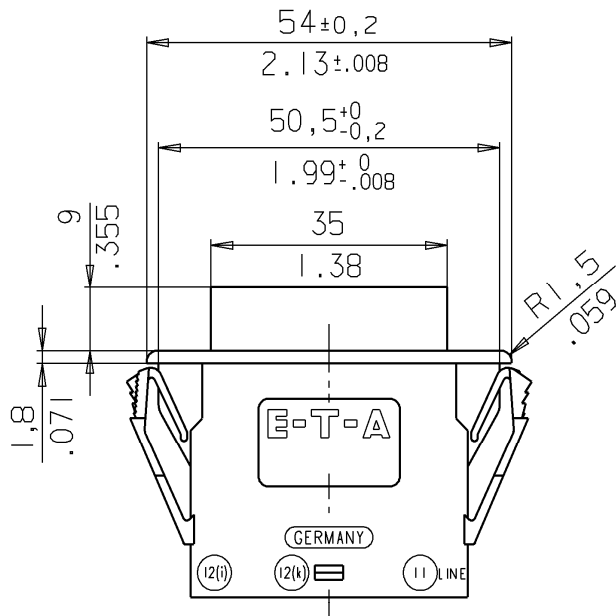
F 3 1
6 7 8 9

collar height .039 inch



F 3 3
6 7 8 9

collar height .355 inch



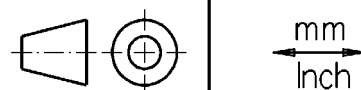
Edges of working parts: 6784

This is a metric design and millimeter dimensions take precedence

Nominal dimensions without direct tolerance indication: ± IT 13

1:1

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				



The information furnished is believed to be accurate and reliable. However no responsibility for its use. In the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without noti

The copying, distribution and utilization of this document as well as the communication of its contents to others without expressed authorization is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or ornamental design registration. Protection mark according to DIN 34.

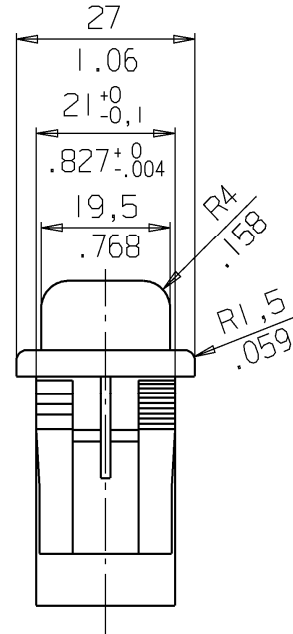
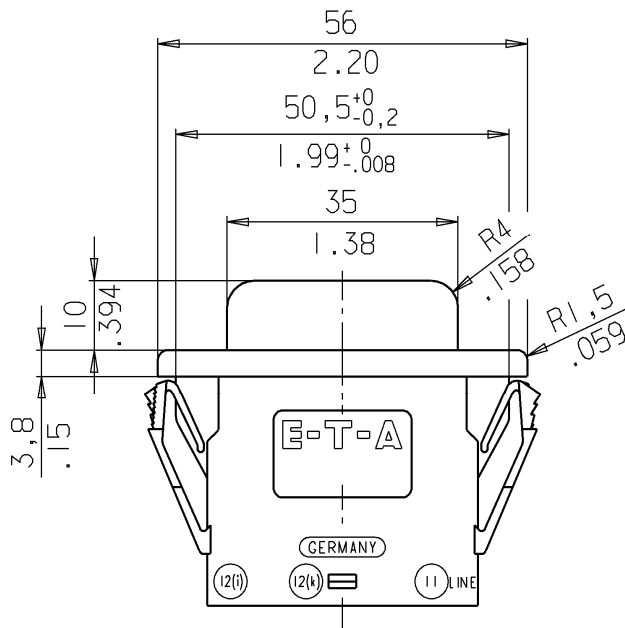


Overcurrent Circuit Breaker
thermal trip
3120-...-..T1-..
one and two pole

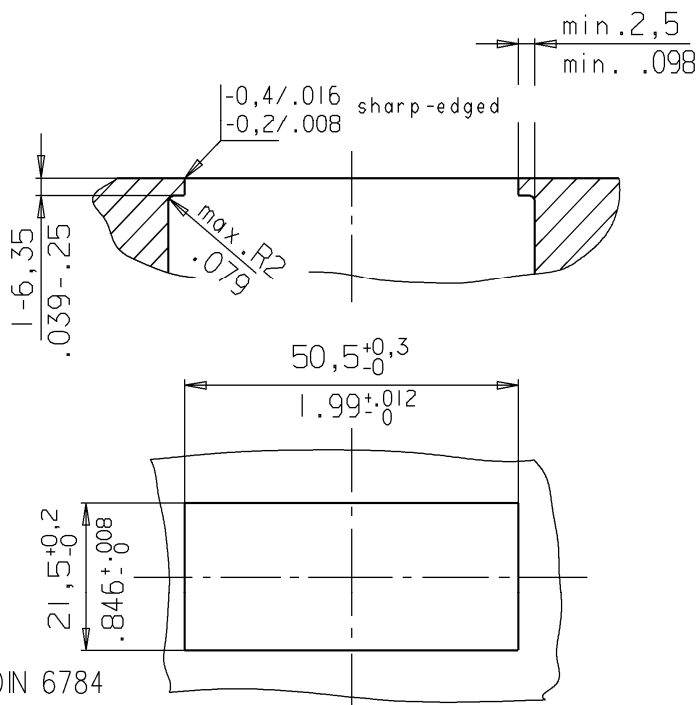
Data Sheet
382.073.468
sheet 16 of 37

F 3.1 4
6 7 8 9

collar height .079 inch with splash water protection



Panel cut-out F3.1 / F3.3 / F3.4



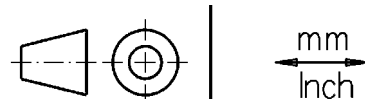
This is a metric design and millimeter dimensions take precedence

Edges of working parts: DIN 6784

Nominal dimensions without direct tolerance indication: $\pm IT 13$

1:1

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				



The information furnished is believed to be accurate and reliable. However, E-T-A assumes no responsibility for its use. In the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without notice is reserved.

The copying, distribution and utilization of this document as well as the communication of its contents to others without expressed authorization is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or ornamental design registration. Protection mark according to DIN 34.

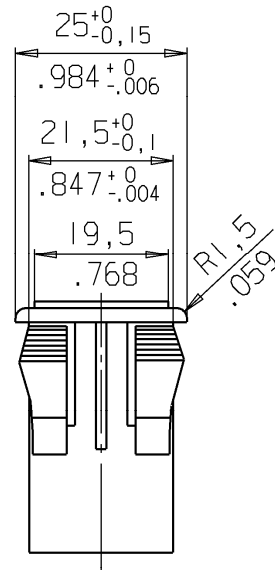
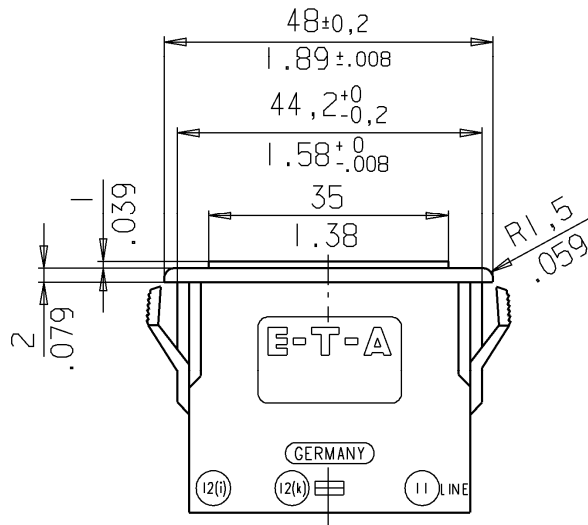


Overcurrent Circuit Breaker
thermal trip
3120-...-..T1-..
one and two pole

Data Sheet
382.073.468
sheet 17 of 37

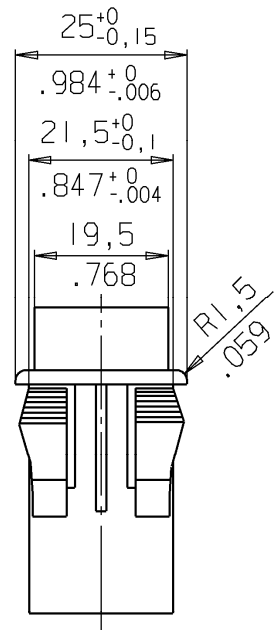
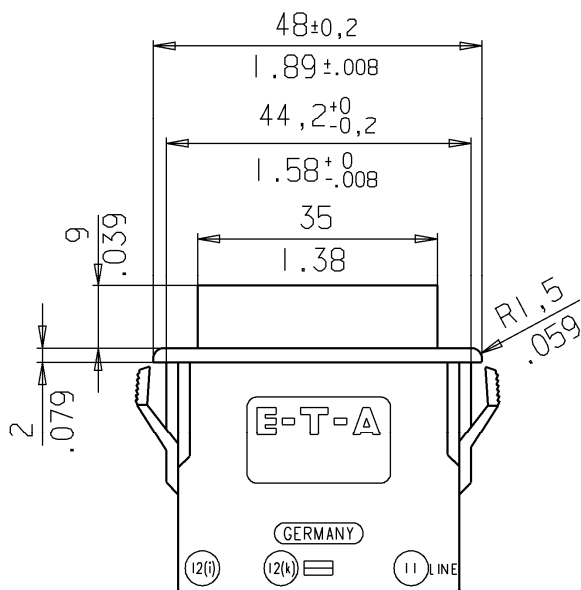
F 4 1
6 7 8 9

collar height .039 inch



F 4 3
6 7 8 9

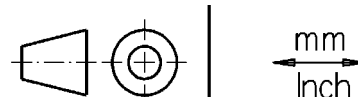
collar height .355 inch



Edges of working parts: DIN 6784

This is a metric design and millimeter dimensions take precedence
Nominal dimensions without direct tolerance indication: $\pm IT 13$ 1:1

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				



The information furnished is believed to be accurate and reliable. However no responsibility for its use. In the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without not

The copying, distribution and utilization of this document as well as the communication of its contents to others without expressed authorization is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or ornamental design registration. Protection mark according to DIN 34.

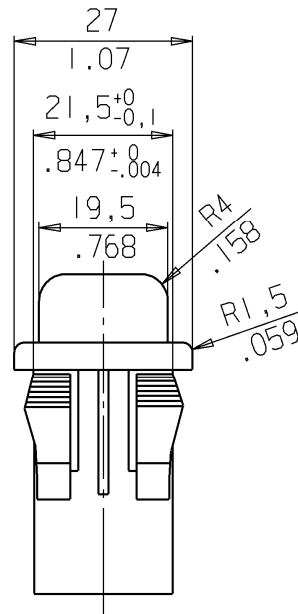
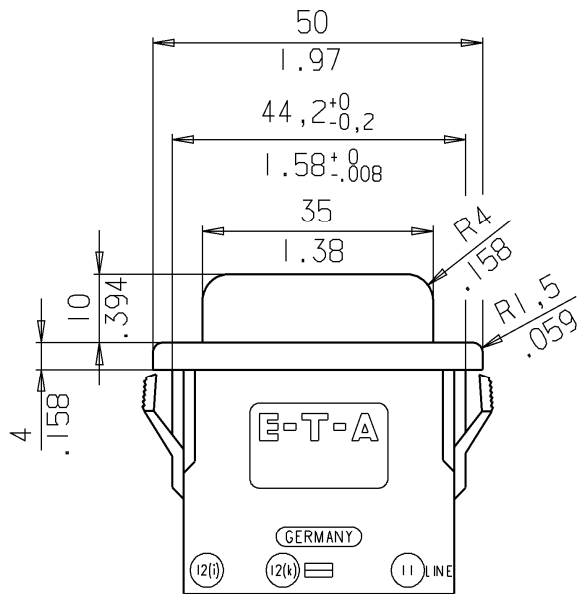


Overcurrent Circuit Breaker
thermal trip
3120-...-..T1-..
one and two pole

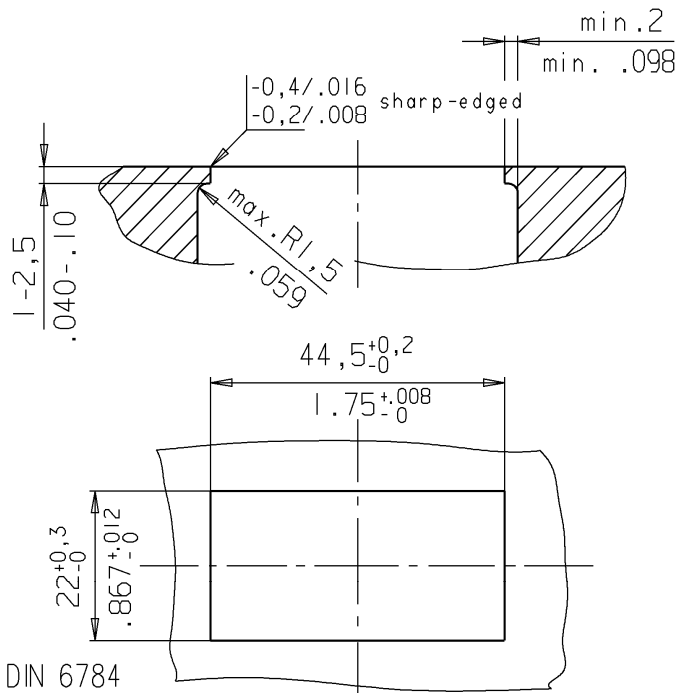
Data Sheet
382.073.468
sheet 18 of 37

F 4 1 4
6 7 8 9

collar height .079 inch with splash water protection



Panel cut-out F4.1 / F4.3 / F4.4



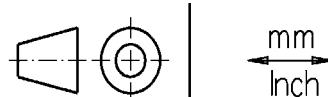
Edges of working parts: DIN 6784

Nominal dimensions without direct tolerance indication: $\pm IT 13$

This is a metric design and millimeter dimensions take precedence

1 : 1

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				



The information furnished is believed to be accurate and reliable. However no responsibility for its use. In the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without noti

The copying, distribution and utilization of this document as well as the communication of its contents to others without expressed authorization is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or ornamental design registration. Protection mark according to DIN 34.

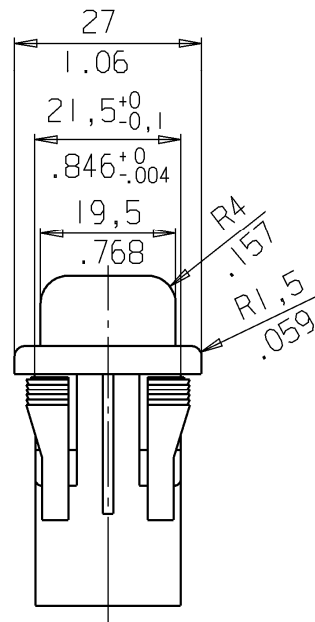
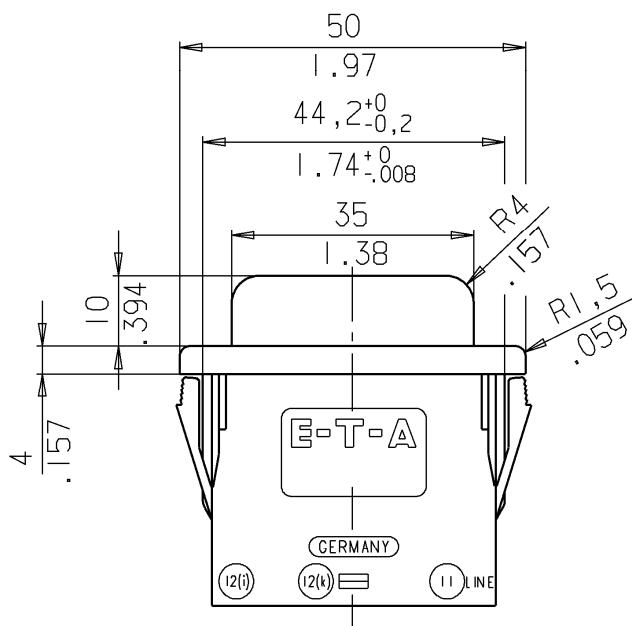


Overcurrent Circuit Breaker
thermal trip
3120-...-T1-..
one and two pole

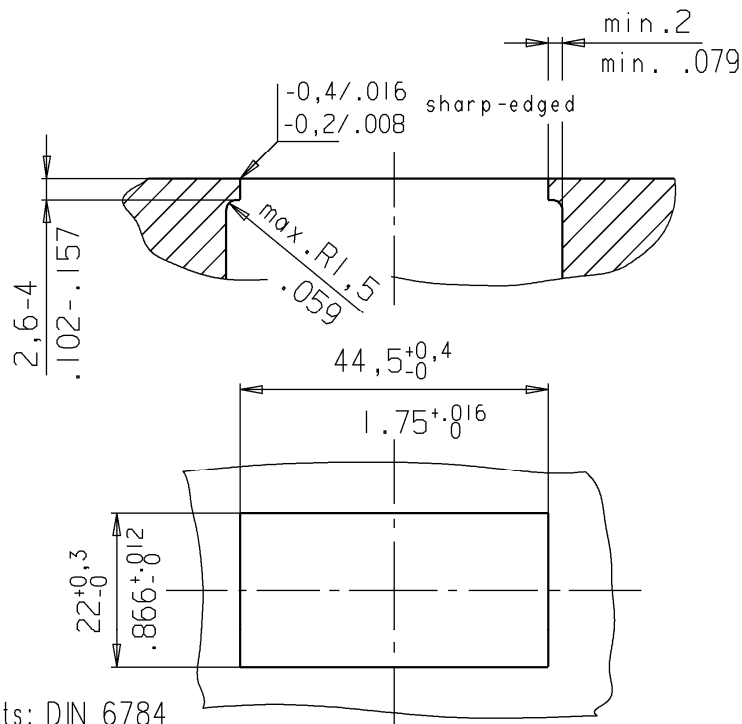
Data Sheet
382.073.468
sheet 20 of 37

F 5.1 4
6 7 8 9

collar height .079 inch with splash water protection



Panel cut-out F5.1 / F5.3 / F5.4



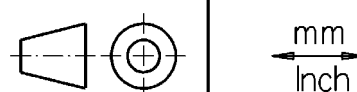
Edges of working parts: DIN 6784

Nominal dimensions without direct tolerance indication: $\pm IT 13$

This is a metric design and millimeter dimensions take precedence

1:1

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				



mm
Inch

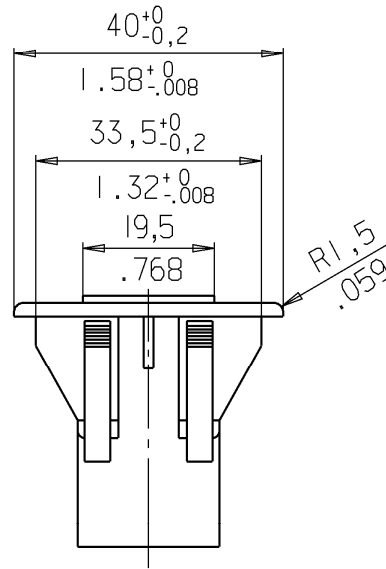
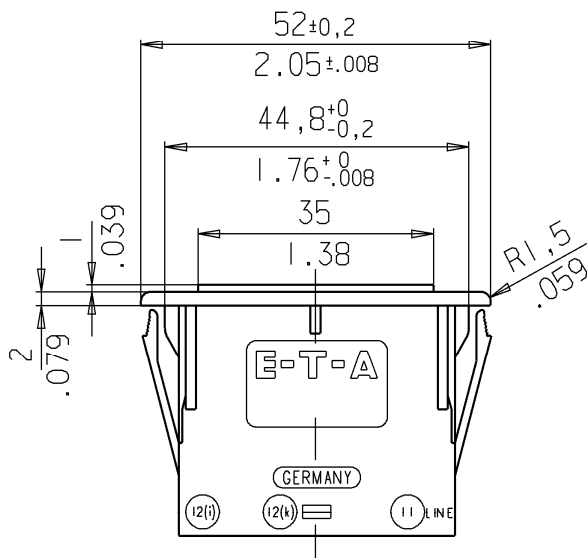


Overcurrent Circuit Breaker
thermal trip
3120-...-..T1-..
one and two pole

Data Sheet
382.073.468
sheet 21 of 37

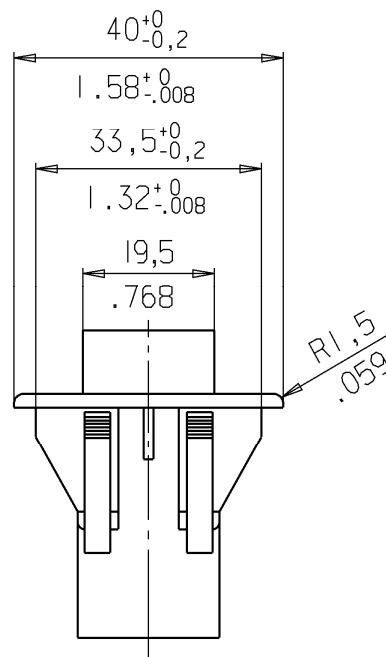
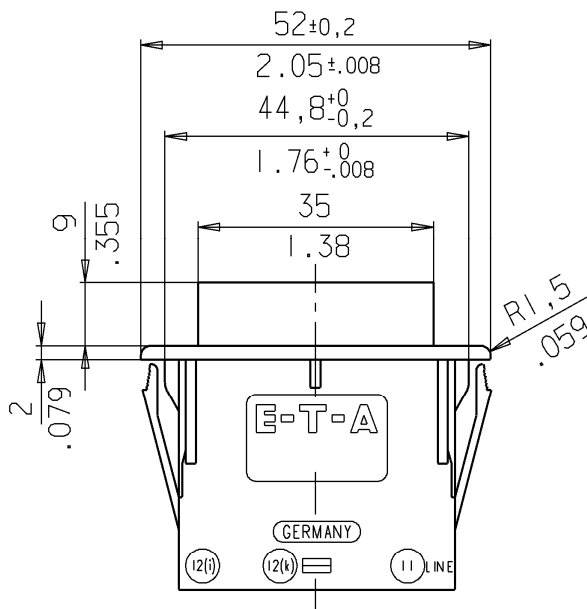
F 6 1
6 7 8 9

collar height .039 inch



F 6 3
6 7 8 9

collar height .355 inch



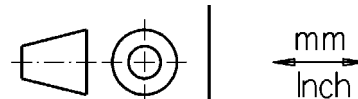
Edges of working parts: DIN 6784

Nominal dimensions without direct tolerance indication: $\pm IT 13$

1:1

This is a metric design and millimeter dimensions take precedence

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				

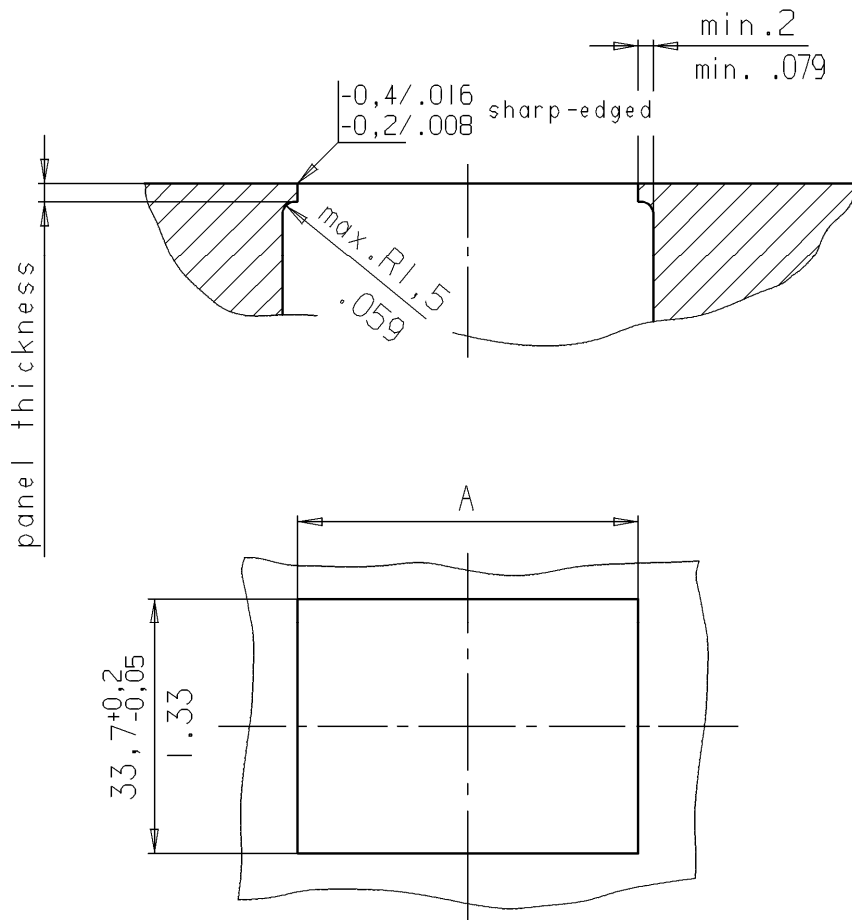




Overcurrent Circuit Breaker
thermal trip
3120-...-T1-..
one and two pole

Data Sheet
382.073.468
sheet 22 of 37

Panel cut-out F6.1 / F6.3



Panel thickness	$.047^{+.016}_{-0}$	$.063^{+.032}_{-0}$	$.094^{+.040}_{-0}$	$.133^{+.004}_{-0}$
Dim. A	$1.77^{+.010}_{-0}$	$1.77^{+.045}_{-0}$	$1.77^{+.088}_{-0}$	$1.77^{+.088}_{-0}$

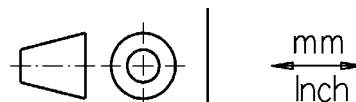
Edges of working parts: DIN 6784

This is a metric design and millimeter dimensions take precedence

Nominal dimensions without direct tolerance indication: $\pm IT 13$

1:1

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				
i	18 338	23.07.01					



mm
Inch

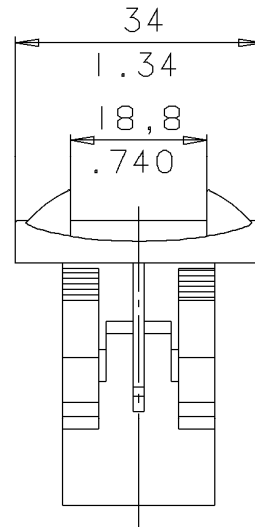
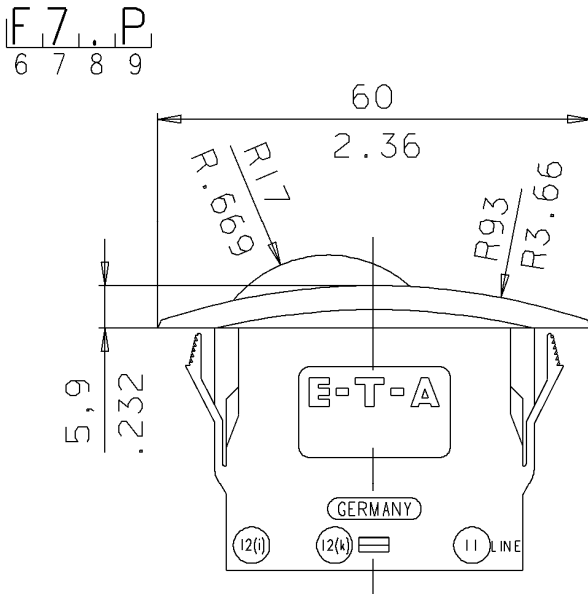
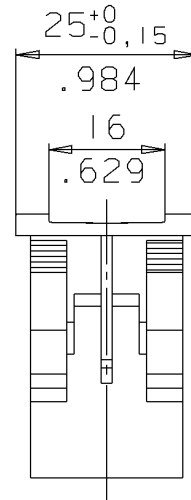
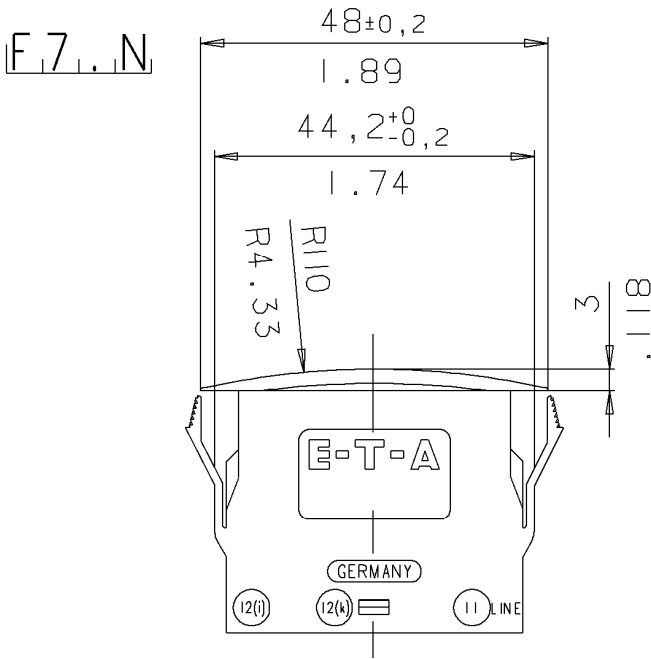
The information furnished is believed to be accurate and reliable. However no responsibility for its use. In the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without notice is reserved.

The copying, distribution and utilization of this document as well as the communication of its contents to others without expressed authorization is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or ornamental design registration. Protection mark according to DIN 34.



Overcurrent Circuit Breaker
thermal trip
3120-...-..T1-..
one and two pole

Data Sheet
382.073.468
sheet 23 of 37

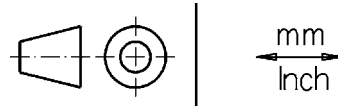


This is a metric design and millimeter dimensions take precedence

Edges of working parts: DIN 6784
Nominal dimensions without direct tolerance indication: $\pm IT 13$

1 : 1

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				



The information furnished is believed to be accurate and reliable. However, no responsibility for its use, in the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without notice is reserved.

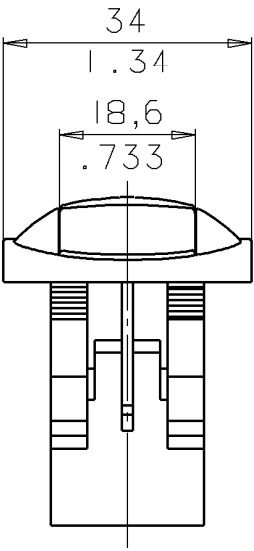
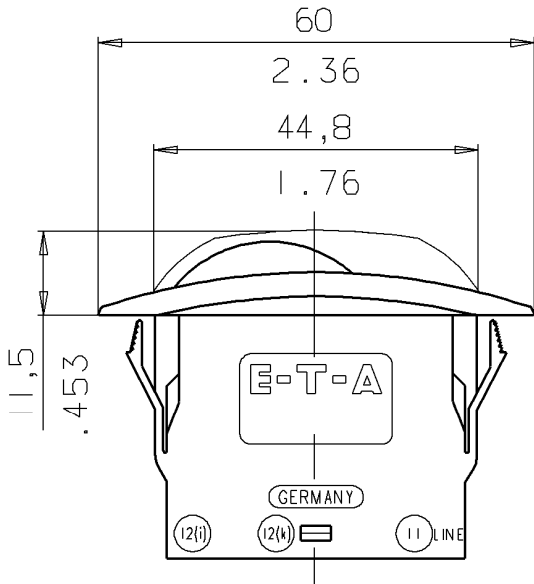
The copying, distribution and utilization of this document as well as the communication of its contents to others without expressed authorization is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or ornamental design registration. Protection mark according to DIN 34.



Overcurrent Circuit Breaker
thermal trip
3120-...-..T1-..
one and two pole

Data Sheet
382.073.468
sheet 24 of 37

E 7...Q



This is a metric design and millimeter dimensions take precedence

Edges of working parts: DIN 6784

Nominal dimensions without direct tolerance indication: $\pm IT 13$

1:1

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				



mm
Inch

The information furnished is believed to be accurate and reliable. However, no responsibility for its use, in the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without notice is reserved.

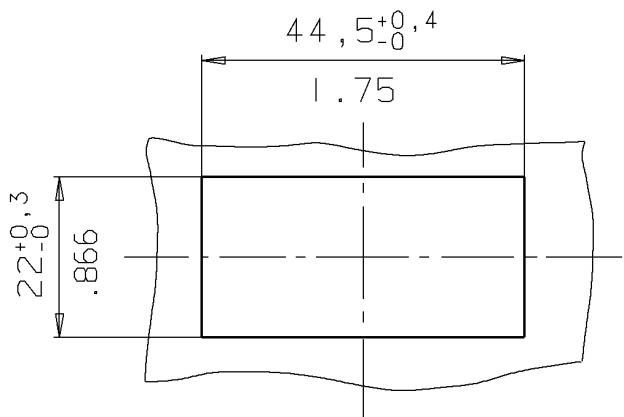
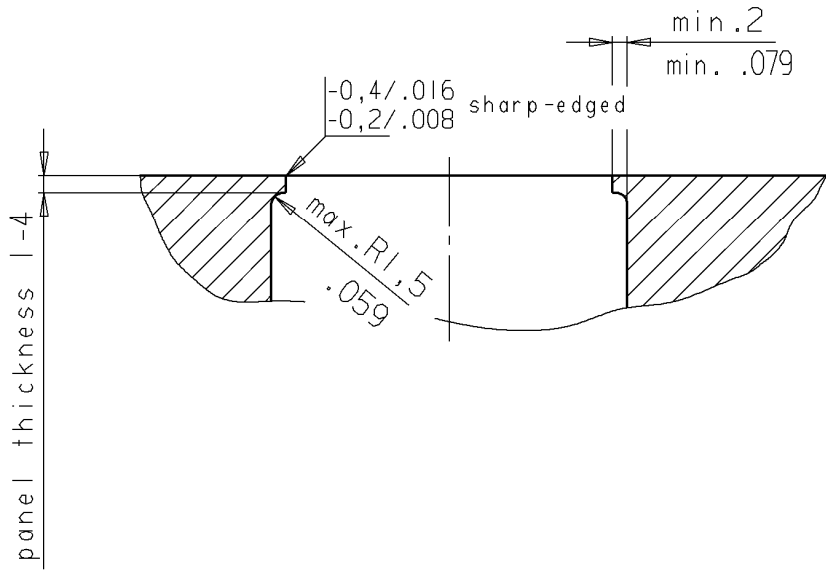
The copying, distribution and utilization of this document as well as the communication of its contents to others without expressed authorization is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or ornamental design registration. Protection mark according to DIN 34.



Overcurrent Circuit Breaker
thermal trip
3120-...-..T1-..
one and two pole

Data Sheet
382.073.468
sheet 25 of 37

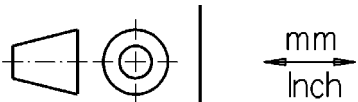
Panel cut-out F7.N / F7.P / F7.Q



This is a metric design and millimeter dimensions take precedence
Nominal dimensions without direct tolerance indication: $\pm IT 13$

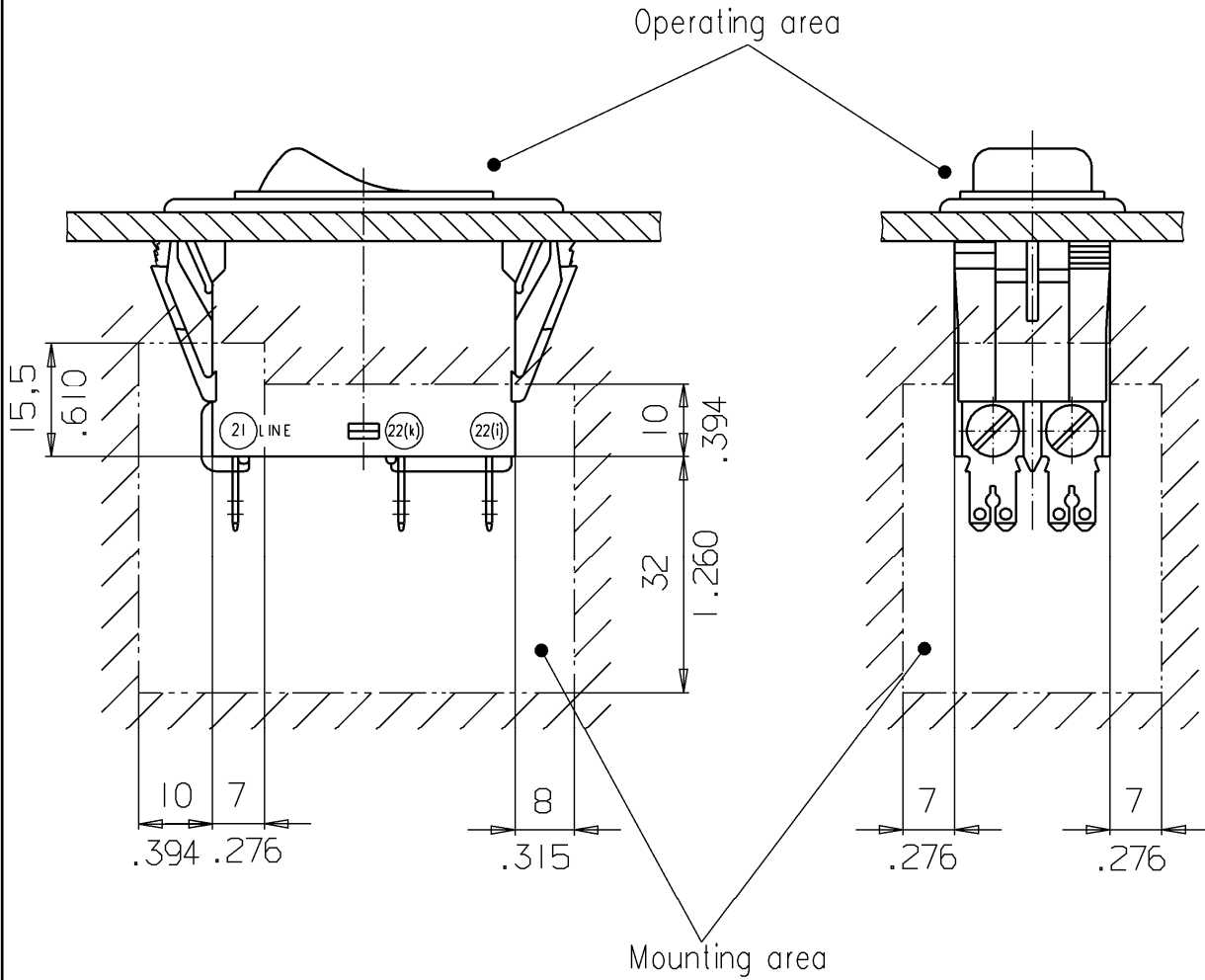
1:1

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				





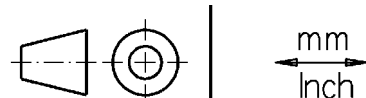
Safety distances required for installation
to protection class II



This is a metric design and millimeter dimensions take precedence

1:1

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				

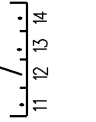




Overcurrent Circuit Breaker
thermal trip
3120-...-..T1-..
one and two pole

Data Sheet
382.073.468
sheet 27 of 37

2x flat quick connect terminal DIN 46244 – A2,8 – 0,8 – Ms
or
flat quick connect terminal DIN 46244 – A6,3 – 0,8 – Ms



Ordering number										Connection diagram	
3120-1											

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				

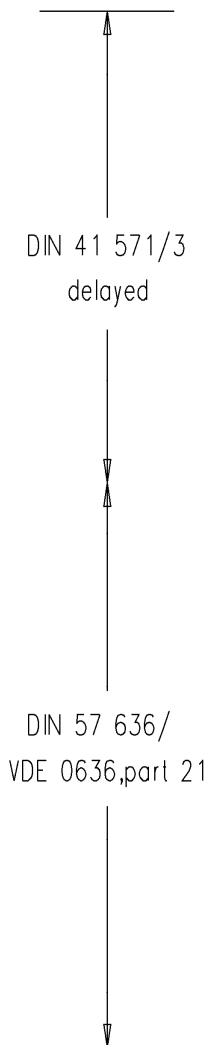


Overcurrent Circuit Breaker
thermal trip
3120-...-..T1-..
one and two pole

Data Sheet
382.073.468
sheet 28 of 37

Back-up fuses to ensure short-circuit protection

E-T-A Current rating (A)	Back-up fuses to DIN Current rating (A)	Back-up fuses to UL 1077 Current rating (A)
0.1	0.20	20
0.2	0.40	
0.3	0.63	
0.4	1.00	
0.5	1.25	
0.6	1.40	
0.8	1.60	
1.0	2.00	
1.2	2.00	
1.5	3.15	
2.0	4.00	
2.5	16	
3.0	16	
3.5	16	
4.0	20	
4.5	20	
5.0	20	20
6.0	25	25
7.0	25	30
8.0	25	30
10.0	25	40
12.0	25	50
14.0	25	60
16.0		60
18.0	32	70
20.0	32	80



Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				



Overcurrent Circuit Breaker
thermal trip
3120-...-..T1-..
one and two pole

Data Sheet
382.073.468
sheet 29 of 37

Ordering number code

3 120-F 3 2 1 -N7 T1 -W12A B 4 - 10A

1 2 3 4 5 6 7 8 9 10 11 12 13

1. Type number

3120: Thermal or thermal-magnetic circuit breaker, single or double pole (with ON / OFF switch only option)

2. Mounting method

F: Snap-in frame or screw mounting

3. Configuration

		panel cut-out	panel thickness	screw mounting	snap-in housing
1	for rocker	32.0 x 16.5 mm		x	
2	for 2 push buttons and water splash cover	50.0 x 26.0 mm		x	
3	for rocker or push buttons	50.5 x 21.5 mm	1.0 - 6.35 mm		x
4	for rocker	44.5 x 22.0 mm	1.0 - 2.5 mm		x
5	for rocker	44.5 x 22.0 mm	2.6 - 4.0 mm		x
6	for rocker	45.0 x 33.7 mm	1.2 - 3.4 mm		x
7	for rocker	44.5 x 22.0 mm	1.0 - 4.0mm		x

4. Number of poles

0	2 pole, unprotected, switch only
1	1 pole, thermally protected
2	2 pole, thermally protected
5	2 pole, thermally protected on one only
6	1 pole, unprotected, switch only

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				



Overcurrent Circuit Breaker
thermal trip
3120-...-..T1-..
one and two pole

Data Sheet
382.073.468
sheet 30 of 37

5. Style, accessory

		water splash protection	without collar	collar height			mounting method configuration						
				1mm	2mm	9mm	F1	F2	F3	F4	F5	F6	F7
1				X					X	X	X	X	
3						X			X	X	X	X	
4		X			X				X	X	X		
5					X				X	X	X		
6	mounting thread 2 x 6-32 UNC						X						
7	mounting thread 2 x M3,5						X						
8	mounting thread 4 x 6-32 UNC						X						
9	mounting thread 4 x M3,5						X						
A	with transverse hole 4mm dia					X			X	X	X	X	
B	current rating marked on top of flange			X					X	X	X	X	
C	with additional sealing (sealing grease)	X			X				X	X	X		
D	with silicone cover	X			X				X	X	X		
E	with silicone cover and additional sealing (sealing grease)	X			X				X	X	X		
F	frame with 2 push buttons							X	X				
G	frame with 1 push button								X				
H	I and O marked on top of flange			X					X	X	X	X	
K	I and O marked on top of flange					X			X	X	X	X	
L	I and O marked on top of flange			X					X	X	X	X	
M	I and O marked on top of flange					X			X	X	X	X	
N	colour grey (stratos grey), new design		X										X
P	Snap-on actuator guard preventing inadvertent operation		X										X
Q	Snap-on splash cover	X	X										X
Z	Snap-in frame			X					X				

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				



Overcurrent Circuit Breaker
thermal trip
3120-...-..T1-..
one and two pole

Data Sheet
382.073.468
sheet 31 of 37

6. Terminal design

	blade terminals DIN 46 244 - C			number of poles				
	Terminal code							
	12(i), 22(i) A3 terminals	12(k), 22(k)	11, 12	0	1	2	5	6
A1		x	with screw ISO 1580 - M3.5 and clamping plates		x	x		
A2		x	with M3,5 screw with +/- slot and clamping plates		x	x	x	
A3	x	x	with M3,5 screw with +/- slot and clamping plates and A3 terminals	x	x	x	x	x
B1	x	x	with screw ISO 1580 - M3,5 and washer and tab DIN 46244-C	x	x	x	x	x
B2		x	with screw ISO 1580 - M3,5 and washer and tab DIN 46 244-C		x	x	x	
G7	x	x	with screw ISO 1580 - M3,5	x	x	x	x	x
H7		x	with screw ISO 1580 - M3,5		x	x	x	
K7		x	with M3.5 screw with +/- slot		x	x	x	
L7	x	x	with M3.5 screw with +/- slot	x	x	x	x	x
N7	x	x	x	x	x	x	x	x
P7		x	x		x	x	x	

Unprotected chambers only with B1, G7, L7 or N7, but without terminal 12 (k) or 22 (k)

7. Characteristic curve

		number of poles				
		0	1	2	5	6
M1	thermal - magnetic		x	x	x	
Q1	switch only; 50,000 operations, max 20A, cosφ 1, 250 V	x				x
T1	thermal 1. $I_N - 1.4 \times I_N$		x	x	x	
X.	special calibration		x	x	x	

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				



Overcurrent Circuit Breaker
thermal trip
3120-...-..T1-..
one and two pole

Data Sheet
382.073.468
sheet 32 of 37

8. Actuator style

		Style																					
		1	3	4	5	6	7	8	9	A	B	C	D	E	F	G	H	K	L	M	N	P	Q
A	rocker																				x	x	x
D	1 push button															x							
K	rocker, momentary switch	x	x	x	x	x	x	x	x	x	x	x	x	x			x	x	x	x			
M	rocker	x	x	x	x	x	x	x	x	x	x	x	x	x			x	x	x	x			
S	2 push buttons														x								
U	rocker, momentary switch	x	x	x	x	x	x	x	x	x	x	x	x	x			x	x	x	x			
W	rocker	x	x	x	x	x	x	x	x	x	x	x	x	x			x	x	x	x			
X	custom designed rocker	x	x		x	x	x	x	x	x	x						x	x	x	x			
Z	1 push button, momentary switch															x							

For markings of A, K, M, U W and X see sheets 33 - 35

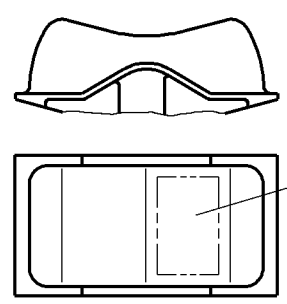
9. Actuator colour

			Actuator style								
opaque ((without illumination)	translucent (suitable for illumination)	colour	A	D	K	M	S	U	W	X	Z
01		black		x	x	x	x	x	x	x	x
02		white			x	x		x	x		
04		red		x	x	x	x	x	x		x
06		blue			x	x		x	x		
08		light grey			x	x		x	x		
09		green			x	x		x	x		
	12	white		x	x	x	x	x	x		x
	14	red			x	x		x	x		
	15	orange			x	x		x	x		
	19	green		x	x	x	x	x	x		x
20	30	blue (katana blue)	x								
Special version											
2 push buttons of different colours	button „ON“ (translucent)	button „OFF“ (opaque)									
GR	green	red					x				
WB	white	black					x				
WR	white	red					x				

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				
h	18 056	13.12.00	K.Go				



10. Actuator marking
rocker



illumination window

				Actuator						Actuator / colour			
				A	K	M	U	W	X	U01	U02	W01	W02
A	I		0				X	X					
B	EIN		AUS				X	X					
C	ON		OFF				X	X					
D	0	I					X	X					
E	AUS	EIN					X	X					
F	OFF	ON					X	X					
G	OFF	ON					X	X					
H	OFF	ON					X	X					
J	○	I					X	X					
K	○	I					X	X					
L	OFF ○	I ON					X	X					
M	TRIPPED	RESET	PRESS TO				X	X					
N	BY HAND	NO					X	X					
P	OFF 0	I NO					X	X					
Q	0	I	marking impressed	X						X	X	X	X

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				

The information furnished is believed to be accurate and reliable. However, no responsibility for its use, in the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without notice is reserved.

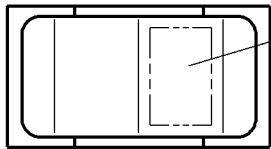
The copying, distribution and utilization of this document as well as the communication of its contents to others without expressed authorization is prohibited. Offenders will be held liable for the payment of damages. All rights reserved in the event of the grant of a patent, utility model or ornamental design registration. Protection mark according to DIN 34.



Overcurrent Circuit Breaker
thermal trip
3120-...-..T1-..
one and two pole

Data Sheet
382.073.468
sheet 34 of 37

10. Actuator marking
rocker



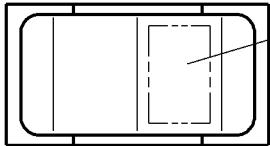
illumination window

				Actuator					
				A	K	M	U	W	X
R	OFF	NO					×	×	
S	OFF	ON					×	×	
T	BATT 1	PUSH ON					×	×	
U	BATT 2	PUSH ON					×	×	
V	MAIN PUMP	PUSH ON					×	×	
W	HORI ZONT	PUSH ON					×	×	
X			without marking				×	×	×
Y	TURN BANK	PUSH ON					×	×	
Z	TAXI LITE	PUSH ON					×	×	
1	LAND LITE	PUSH ON	LAND LITE				×	×	
2	CABIN LITE	PUSH ON	CABIN LITE				×	×	
3	POS LITE	PUSH ON	POS LITE				×	×	
4	AUX PUMP	PUSH ON	AUX PUMP				×	×	
5	SEAT HEAT	PUSH ON	SEAT HEAT				×	×	
6	CYRO	PUSH ON	CYRO				×	×	

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				



10. Actuator marking
rocker



illumination window

				Actuator					
				A	K	M	U	W	X
7	ACL	PUSH ON	ACL				×	×	
8	VENT	PUSH ON	VENT				×	×	
9	STROBE LITE	PUSH ON	STROBE LITE				×	×	
A	PITOT HEAT	PUSH ON	PITOT HEAT		×	×			
B	OFF	ON			×	×			
C	OFF	ON	LIGHT		×	×			
D	OFF	ON	ROTOR		×	×			
E	GEN	PUSH ON			×	×			
F	NO		OFF		×	×			
G		ON			×	×			

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				



Overcurrent Circuit Breaker
thermal trip
3120-...-..T1-..
one and two pole

Data Sheet
382.073.468
sheet 36 of 37

10. Actuator marking

Push button

		Actuator		
		D	S	Z
X	without marking	x	x	x
Y	with black marking on actuator face	x	x	x

11. Actuator illumination

		Actuator			Actuator colour												
		D, S, Z	K, M, U, W	X	01	02	04	06	08	09	12	14	15	19	GR	WB	WR
B	Lamp illumination	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x
L	Lamp illumination	x			x	x	x	x	x	x	x	x	x	x	x	x	x
G	LED illumination - green	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x
R	LED illumination - red	x	x		x	x	x	x	x	x	x	x	x			x	x
Y	LED illumination - yellow	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x

12. Illumination voltage range

		marked		Actuator illumination							
				B	B	L	G	R	R	Y	Y
0	4 - 7 V	6 V		x	x		x	x		x	
1	10 - 14 V	12 V		x	x		x	x		x	
2	20 - 28 V	24 V		x	x		x	x		x	
3	90 - 140 V	115 V		x		x					
4	185 - 275 V	230 V		x		x					
5	52 - 54 V	48 V		x	x				x		x
6	320 - 450 V	400 V		x		x					
7	50 - 70V	60 V							x		x
			Type of current	K, M, U, W	x			x	x	x	x
				D, S, Z		x	x	x	x	x	x
			DC	x	x	x	x	x	x	x	x
			AC	x	x	x	x	x		x	

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				



Overcurrent Circuit Breaker
thermal trip
3120-...-..T1-..
one and two pole

Data Sheet
382.073.468
sheet 37 of 37

13. Current ratings

current rating (A)	characteristic curve						
	M1	T1	Q1	X1	X2	X3	X4
0.05		X					
0.1	X	X					
0.15	X	X					
0.2	X	X					
0.25	X	X					
0.3	X	X					
0.35	X	X					
0.4	X	X					
0.45	X	X					
0.5	X	X					
0.55	X	X					
0.6	X	X					
0.65	X	X					
0.7	X	X					
0.8	X	X					
0.9	X	X					
1	X	X					
1.2	X	X		X			
1.4	X	X					
1.5	X	X					
1.7	X	X					
1.8	X	X					
2	X	X					
2.5	X	X		X	X	X	
2.8	X	X					
3	X	X		X	X	X	X
3.5	X	X					
4	X	X			X	X	X
4.5	X	X			X		
5	X	X			X	X	
6	X	X		X			
7	X	X			X		
8	X	X			X		
9	X	X					
10	X	X					
11	X	X					
12	X	X					
13	X	X					
14	X	X			X		
15	X	X		X	X		
16	X	X					
17		X			X		
18		X					
20		X	X				

Note: Boldface references are in conformance with the ordering informations shown in the E-T-A Catalogue

Index	ÄM	Date	Name	Index	ÄM	Date	Name
g	17 866	26.06.00	K.Go				