

Data Sheet for Article: AM018304UL

Miniature Circuit Breaker AMPARO 5kA, B 4A, 3-pole, UL1077

Product category AM10, Neutral on right side, Product standard EN 60898-1, IEC 60898-1, UL1077



Schrack Info

- Contact position indicator
- Lift und Clamp terminals on both sides
- Back terminal design for safe connection
- Neutral on right side
- Terminal cross-section: 1-25mm²
- Snap-on mounting for DIN rail according to EN 60715
- Compliant to the product standard UL1077

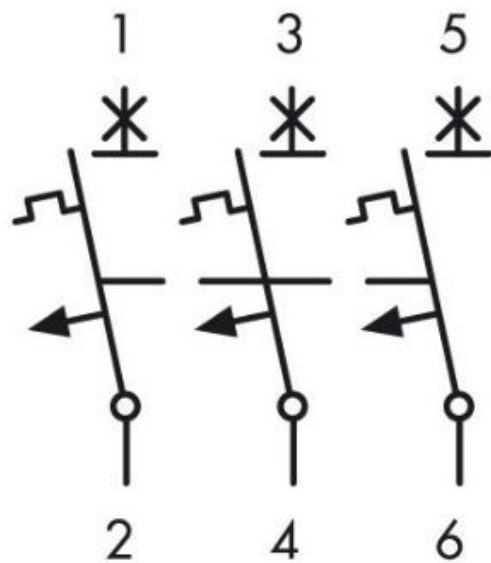
Technical Data

Standard	IEC 60898-1 UL1077 EN 60898-1
Rated voltage	230/400 - 240/415V
Rated frequency (Hz)	50/60
Tripping characteristics	B

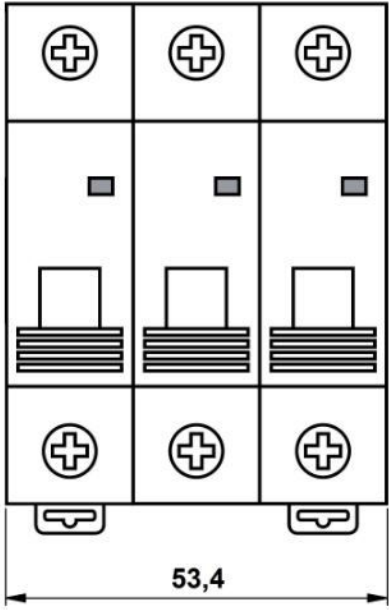
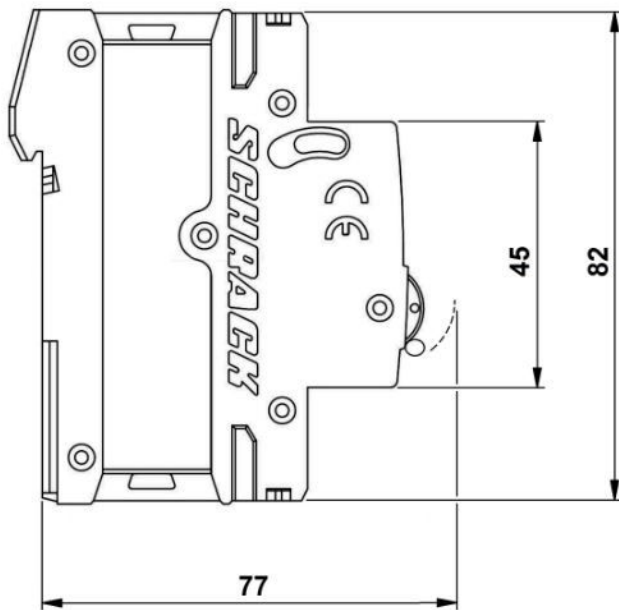
Technical Data - continued

Rated current (A)	4
Poles	3
Short circuit withstand	10 kA (IEC/EN 60898) , 5 kA (UL 1077)
Rated impulse withstand voltage Uimp	6kV
Energy limiting class	3
Test voltage (V)	2000
Pollution degree	2
Power loss (W)	6,00
Internal resistance	4A: 94.007mΩ
Lifetime, electric	4000 Operations
Lifespan, mechanical	20000 Operations
IP Rating	IP20
Terminal cross section (mm²)	1 - 25
Clamp size for busbar	10 mm² / 16 mm²
Conductor material	Copper
Terminal type	Double function clamp / pin and fork busbar
Calibration-Temperature (°C)	30
Temperature range - Operation (°C)	-25 to +70
Ambient Temperature - nominal Tripping (°C)	-5 to +40
Mounting	On DIN rail according to EN 60715 (35mm) via quick mounting clip
Optional Accessories	AM900099--;BSB90113-A;BSB90114-A;AM900008--;AM900006--;AM900005--
Mounting position	any
Certificates	UL 1077, File No. E195102
Amperage (A)	4
Product category	AM10
Rated breaking capacity (kA)	10
Product standard	IEC 60898-1 EN 60898-1:2019

Circuit diagram



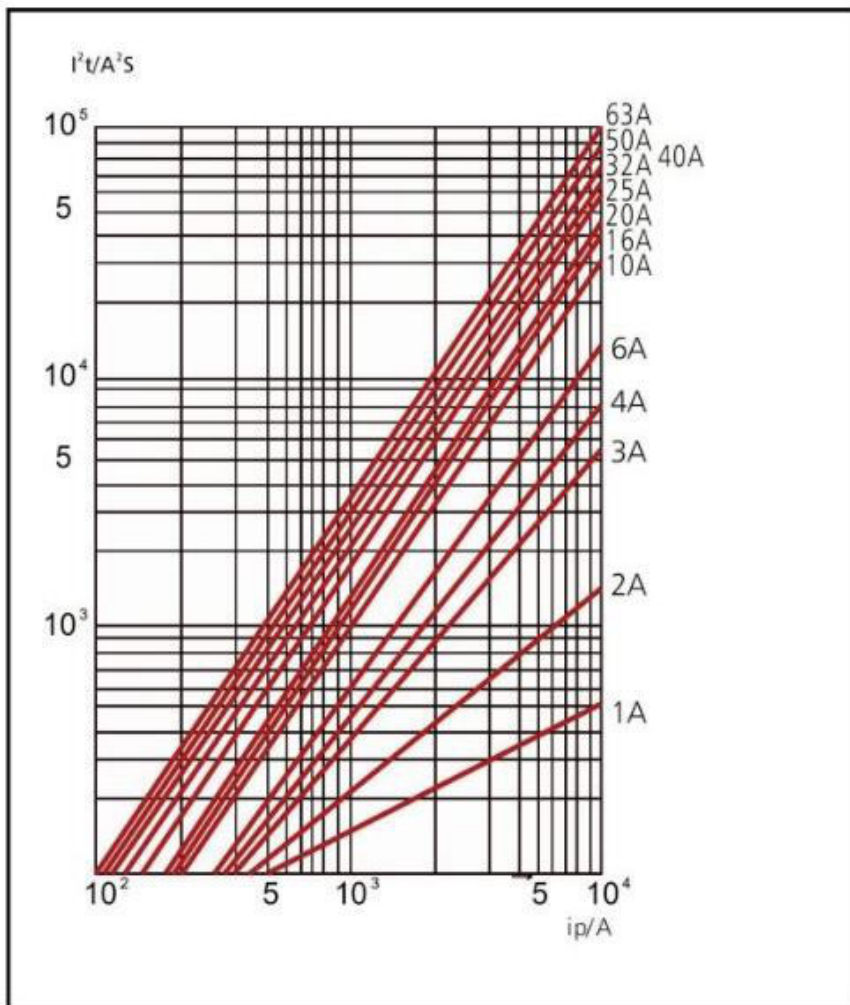
Dimensions



[mm]

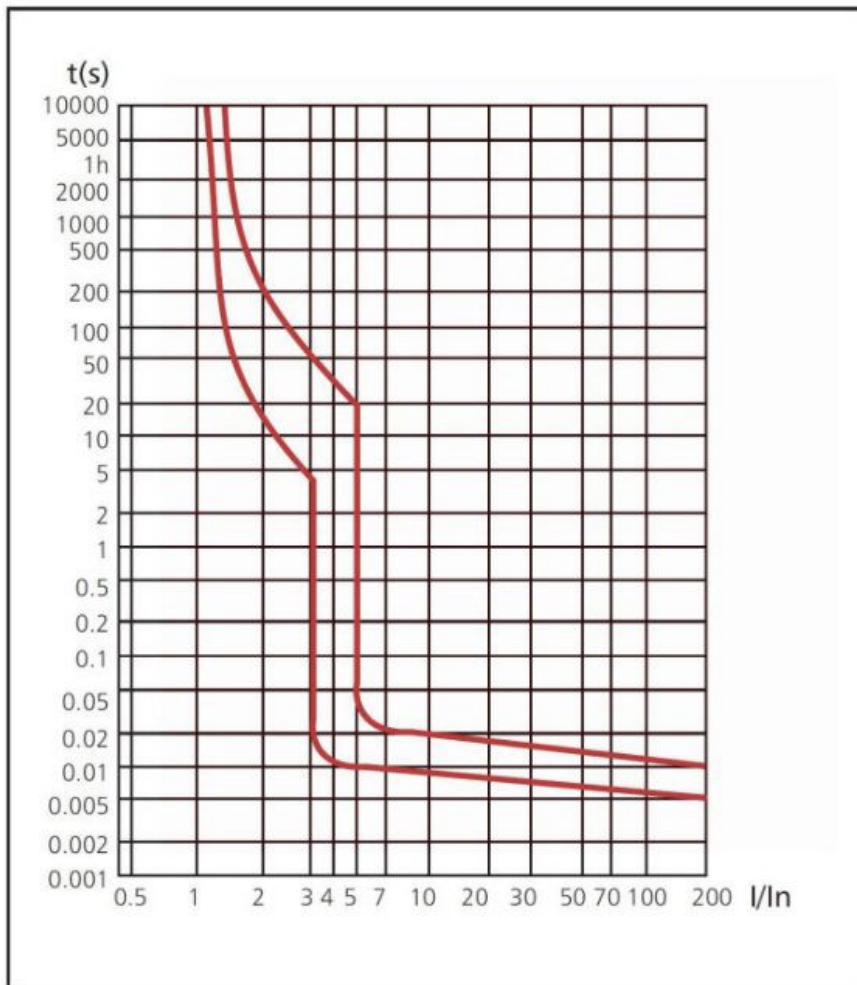
Let-through energy characteristic

I^2t Durchlassenergie/ let-through energy



Tripping characteristic according to IEC 60898

Kennlinie B



Short-circuit selectivity to D/D0 and cylindrical fuse links with characteristic curve gG/gL

I _n	16A	20A	25A	35A	50A	63A	80A	100A
≤2A	0.5 kA	0.8 kA	1.6 kA	10.0 kA	10.0 kA	10.0 kA	10.0 kA	10.0 kA
3A	0.5 kA	0.8 kA	1.4 kA	10.0 kA	10.0 kA	10.0 kA	10.0 kA	10.0 kA
4A	0.5 kA	0.6 kA	1.0 kA	3.6 kA	10.0 kA	10.0 kA	10.0 kA	10.0 kA
6A	0.5 kA	0.6 kA	0.9 kA	1.8 kA	3.2 kA	7.4 kA	10.0 kA	10.0 kA
10A	-	0.5 kA	0.8 kA	1.4 kA	2.2 kA	3.9 kA	6.0 kA	10.0 kA
13A	-	0.5 kA	0.7 kA	1.3 kA	2.0 kA	3.6 kA	5.4 kA	10.0 kA
16A	-	-	0.6 kA	1.2 kA	1.9 kA	3.2 kA	4.6 kA	8.4 kA
20A	-	-	-	1.2 kA	1.8 kA	3.1 kA	4.4 kA	4.6 kA
25A	-	-	-	1.2 kA	1.8 kA	3.0 kA	4.2 kA	4.1 kA
32A	-	-	-	-	1.7 kA	2.8 kA	3.9 kA	3.8 kA
40A	-	-	-	-	-	2.7 kA	3.8 kA	3 kA
50A	-	-	-	-	-	2.5 kA	3.5 kA	2.6 kA
63A	-	-	-	-	-	-	-	2.4 kA

Short-circuit selectivity to NH fuses with characteristic curve gG/gL

I _n	16A	20A	25A	35A	40A	50A	63A	80A	100A	125A	160A
≤2A	0.5 kA	0.5 kA	1.0 kA	10.0 kA	10.0 kA	10.0 kA	10.0 kA	10.0 kA	10.0 kA	10.0 kA	10.0 kA
3A	0.5 kA	0.5 kA	0.9 kA	8.0 kA	10.0 kA	10.0 kA	10.0 kA	10.0 kA	10.0 kA	10.0 kA	10.0 kA
4A	0.5 kA	0.5 kA	0.8 kA	2.3 kA	4.3 kA	10.0 kA	10.0 kA	10.0 kA	10.0 kA	10.0 kA	10.0 kA
6A	0.5 kA	0.5 kA	0.7 kA	1.5 kA	2.0 kA	3.3 kA	4.3 kA	7.6 kA	10.0 kA	10.0 kA	10.0 kA
10A	-	0.5 kA	0.6 kA	1.2 kA	1.5 kA	2.2 kA	2.7 kA	4.0 kA	9.0 kA	10.0 kA	10.0 kA
13A	-	0.5 kA	0.6 kA	1.1 kA	1.4 kA	2.1 kA	2.6 kA	3.8 kA	7.9 kA	10.0 kA	10.0 kA
16A	-	-	0.5 kA	1.0 kA	1.3 kA	1.9 kA	2.4 kA	3.4 kA	6.4 kA	9.3 kA	10.0 kA
20A	-	-	-	1.0 kA	1.3 kA	1.9 kA	2.4 kA	3.3 kA	6.0 kA	8.7 kA	10.0 kA
25A	-	-	-	1.0 kA	1.3 kA	1.8 kA	2.3 kA	3.2 kA	5.7 kA	8.0 kA	10.0 kA
32A	-	-	-	0.9 kA	1.2 kA	1.7 kA	2.2 kA	3.1 kA	5.4 kA	7.6 kA	10.0 kA
40A	-	-	-	-	-	-	2.1 kA	3.0 kA	5.1 kA	7.2 kA	10.0 kA
50A	-	-	-	-	-	-	1.9 kA	2.8 kA	4.7 kA	6.6 kA	9.5 kA
63A	-	-	-	-	-	-	-	-	4.4 kA	6.3 kA	8.6 kA

Short-circuit selectivity to circuit breaker size 1

I _{cu} = 25kA (50 kA)	40A	50A	63A	80A	100A	125A
1A	15 kA	15kA	15kA	15kA	15kA	15kA
2A	2 kA	15 kA	15 kA	15 kA	15 kA	15 kA
3A	1.2 kA	2 kA	3 kA	3 kA	10 kA	15 kA
4A	1.2 kA	2 kA	3 kA	3 kA	8 kA	15 kA
6A	1.2 kA	2 kA	2.5 kA	3 kA	5 kA	10 kA
10A	1.2 kA	1.5 kA	2 kA	2 kA	4 kA	10 kA
13A	1 kA	1.5 kA	2 kA	2 kA	4 kA	10 kA
16A	1 kA	1.2 kA	1.5 kA	2 kA	3 kA	8 kA
20A	0.8 kA	1.2 kA	1.5 kA	1.5 kA	3 kA	8 kA
25A	0.7 kA	1.2 kA	1.5 kA	1.5 kA	3 kA	7 kA
32A	-	1.2 kA	1 kA	1.5 kA	2 kA	6 kA
40A	-	-	1 kA	1.5 kA	2 kA	5 kA
50A	-	-	-	1.2 kA	1.5 kA	4 kA
63A	-	-	-	-	1.5 kA	3 kA

Short-circuit selectivity to circuit breaker size 2

I _{cu} =25kA (50kA), (100kA), (150kA)	40A	50A	63A	80A	100A	125A	160A	200A	250A
1A	15 kA	15 kA	15 kA	15 kA	15 kA	15 kA	15 kA	15 kA	15 kA
2A	3 kA	15 kA	15 kA	15 kA	15 kA	15 kA	15 kA	15 kA	15 kA
3A	1.5 kA	1.5 kA	3 kA	5 kA	15 kA	15 kA	15 kA	15 kA	15 kA
4A	1.2 kA	1.5 kA	3 kA	4 kA	15 kA	15 kA	15 kA	15 kA	15 kA
6A	1.2 kA	1.5 kA	2.5 kA	3 kA	15 kA	15 kA	15 kA	15 kA	15 kA
10A	1 kA	1.5 kA	2.5 kA	3 kA	10 kA	10 kA	10 kA	10 kA	10 kA
13A	1 kA	1.2 kA	2 kA	3 kA	10 kA	10 kA	10 kA	10 kA	10 kA
16A	1 kA	1.2 kA	1.5 kA	2.5 kA	10 kA	10 kA	10 kA	10 kA	10 kA
20A	1 kA	1.2 kA	1.5 kA	1.5 kA	10 kA	10 kA	10 kA	10 kA	10 kA
25A	0.8 kA	1kA	1.5 kA	2 kA	10 kA	10 kA	10 kA	10 kA	10 kA
32A	-	1 kA	1.5 kA	2 kA	8 kA	8 kA	8 kA	8 kA	10 kA
40A	-	-	1.2 kA	1.5 kA	7 kA	7 kA	7 kA	7 kA	10 kA
50A	-	-	-	1.5 kA	6 kA	6 kA	6 kA	6 kA	10 kA
63A	-	-	-	-	6 kA	6 kA	6kA	6 kA	10 kA

Influence of the ambient temperature on the thermal tripping behavior

I _n (A)	Ambient temperature T (°C)											
	-35	-30	-20	-10	0	10	20	30	40	50	60	70
1	1.30	1.26	1.23	1.19	1.15	1.11	1.05	1.00	0.96	0.93	0.88	0.83
2	2.60	2.52	2.46	2.38	2.28	2.20	2.08	2.00	1.92	1.86	1.76	1.66
3	3.90	3.78	3.69	3.57	3.42	3.30	3.12	3.00	2.88	2.79	2.64	2.49
4	5.20	5.04	4.92	4.76	4.56	4.40	4.16	4.00	3.84	3.76	3.52	3.32
6	7.80	7.56	7.38	7.14	6.84	6.60	6.24	6.00	5.76	5.64	5.28	4.98
10	13.20	12.70	12.50	12.00	11.50	11.10	10.60	10.00	9.60	9.30	8.90	8.40
16	21.12	20.48	20.00	19.20	18.40	17.76	16.96	16.00	15.36	14.88	14.24	13.44
20	26.40	25.60	25.00	24.00	23.00	22.20	21.20	20.00	19.20	18.60	17.80	16.80
25	33.00	32.00	31.25	30.00	28.75	27.75	26.50	25.00	24.00	23.25	22.25	21.00
32	42.56	41.28	40.00	38.72	37.12	35.52	33.92	32.00	30.72	29.76	28.16	26.88
40	53.20	51.20	50.00	48.00	46.40	44.80	42.40	40.00	38.40	37.20	35.60	33.60
50	67.00	65.5	63.00	60.50	58.00	56.00	53.00	50.00	48.00	46.50	44.00	41.50
63	83.79	81.90	80.01	76.86	73.71	70.56	66.78	63.00	60.48	58.90	55.44	52.29

Number of possible wires

Cross-section [mm ²]	Number of rigid single wire conductors					
	1	2	3	4	5	6
1	+	+	+	+	+	+
1.5	+	+	+	+	+	+
2.5	+	+	+	-	-	-
4	+	+	+	-	-	-
6	+	+	+	-	-	-

Cross-section [mm ²]	Number of rigid multi wire conductors					
	1	2	3	4	5	6
10	+	+	-	-	-	-
16	+	-	-	-	-	-
25	+	-	-	-	-	-

Cross-section [mm ²]	Number of flexible single wire conductors (without ferrule)					
	1	2	3	4	5	6
1	+	+	+	+	+	+
1.5	+	+	+	+	+	+
2.5	+	+	+	+	-	-
4	+	+	+	-	-	-
6	+	+	-	-	-	-
10	+	+	-	-	-	-
16	+	-	-	-	-	-
25	+	-	-	-	-	-

Cross-section [mm ²]	Number of flexible single wire conductors (with ferrule)					
	1	2	3	4	5	6
1	+	-	-	-	-	-
1.5	+	-	-	-	-	-
2.5	+	-	-	-	-	-
4	+	-	-	-	-	-
6	+	-	-	-	-	-
10	+	-	-	-	-	-
16	+	-	-	-	-	-
25	-	-	-	-	-	-

Article Table

DESCRIPTION	COPPER WEIGHT (kg/km)	Order No.
Miniature Circuit Breaker AMPARO 5kA, B 4A, 3-pole, UL1077		
Product category AM10, Neutral on right side, Product standard EN 60898-1, IEC 60898-1, UL1077		AM018304UL
Optional Accessories		
Auxiliary Contact 1CO, series AMPARO snap-on		AM900099
Product category AM6, Product standard EN 60947-5-1:2017		
Busbar fork 3-pole, 10mm ² , 1m	480	BSB90113-A
Not possible to break off, shortenable on both sides, TE=17.8mm		
Busbar fork 3-pole, 16mm ² , 1m	670	BSB90114-A
Not possible to break off, shortenable on both sides, TE=17.8mm		
Undervoltage Release 230VAC, series AMPARO, snap-on		AM900008
Product category AM6, Product standard EN 60947-5-1:2004 + A1:2009		
Shunt Release 230V/400VAC, series AMPARO, snap-on		AM900006
Product category AM6, Product standard EN 60947-5-1:2004 + A1:2009		
Shunt Release 24VAC/DC, series AMPARO, snap-on		AM900005
Product category AM6, Product standard EN 60947-5-1:2004 + A1:2009		