DATASHEET:
MINIATURE CIRCUIT BREAKER (MCB), SERIES AMPARO



SCHRACK-INFO

- Lift and clamp terminals on both sides
- Terminal guide for secure connection
- Terminal cross-section: 1-25mm²
- Snap-on mounting for DIN rail EN 50 022

TECHNICAL DATA

Standards:	IEC/EN 60898-1 IEC/EN 60947-2
Rated voltage (AC):	230/400 - 240/415V -
Rated frequency (AC):	50/60Hz
Rated current I_n	2, 4, 6, 10, 13, 16, 20, 25, 32, 40A, 50A, 63A
Tripping characteristics:	B, C
Rated breaking capacity:	6 kA acc. to IEC/EN 60898, 6 kA acc. to IEC/EN 60947-2
Energy limiting class	3
Rated impulse withstand voltage (1,2/50) U_{imp}	4kV
Dieelectric test voltage at ind. Freq. For 1 min.	2kV
Polution degree	2

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Total powerloss at I_n

	1P	1+N	2P	3P	3+N
2A	2,0 W	4,0 W	4,0 W	6,0 W	8,0 W
4A	2,0 W	4,0 W	4,0 W	6,0 W	8,0 W
6A	2,0 W	4,0 W	4,0 W	6,0 W	8,0 W
10A	2,0 W	4,0 W	4,0 W	6,0 W	8,0 W
13A	3,5 W	7,0 W	7,0 W	10,5 W	14,0 W
16A	3,5 W	7,0 W	7,0 W	10,5 W	14,0 W
20A	4,0 W	7,0 W	7,0 W	11,0 W	14,0 W
25A	4,0 W	7,0 W	7,0 W	11,0 W	14,0 W
32A	4,0 W	7,0 W	7,0 W	11,0 W	14,0 W
40A	5,0 W	10,0 W	10,0 W	15,0 W	20,0 W
50A	5,0 W	10,0 W	10,0 W	15,0 W	20,0 W
63A	5,0 W	10,0 W	10,0 W	15,0 W	20,0 W

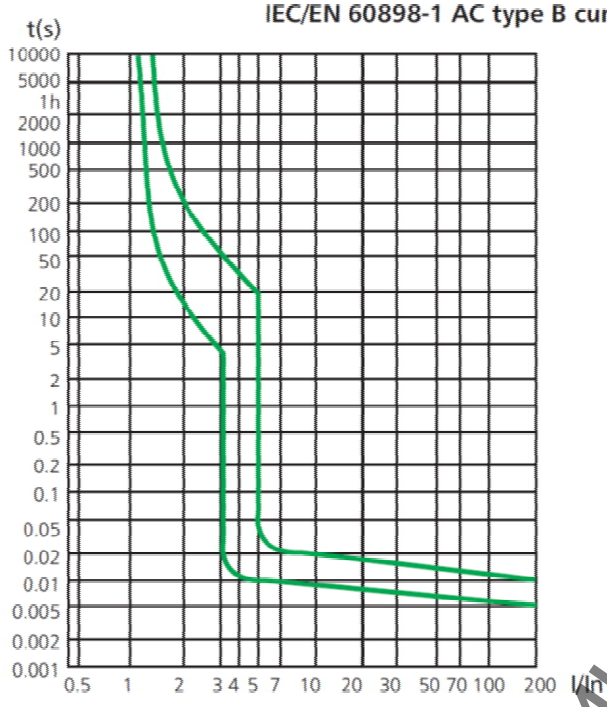
Inrernal resistance	2A	459.800mΩ
	4A	94.007mΩ
	6A	51.787mΩ
	10A	9.989mΩ
	16A	6.310mΩ
	20A	3.832mΩ
	25A	2.671mΩ
	32A	2.009mΩ
	40A	1.660mΩ
	50A	1.226mΩ
	63A	1.055mΩ

Certificate	VDE for 1-ole, 2-pole and 3-pole version
Electrical endurance:	> 8.000 operating cycles
Mechanical endurance:	> 20.000 operating cycles
Protection degree	IP 20
Reference temperature:	30°C
Tripping temperature:	-5 °C to +40 °C
Operating temperature:	-35 °C to +70 °C
Terminal connection type	Cable/U-type busbar / Pin-type busbar
Connection	From top and bottom
Terminal cross-section:	1 - 25 mm^2
Terminal tightening torque:	2.5 Nm
Terminal size for busbar	10 mm^2
Mounting:	on DIN rail EN 60715 (35mm) by means of fast clip device

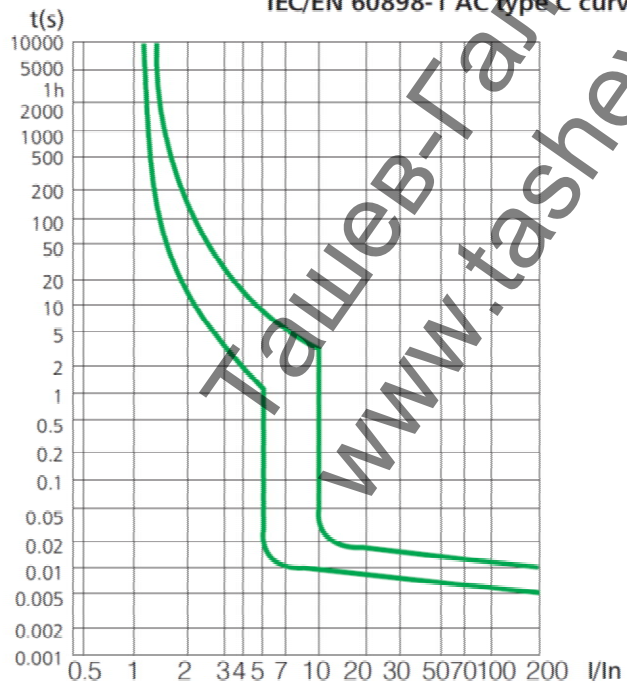
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TRIPPING CURVES

IEC/EN 60898-1 AC type B curve



IEC/EN 60898-1 AC type C curve

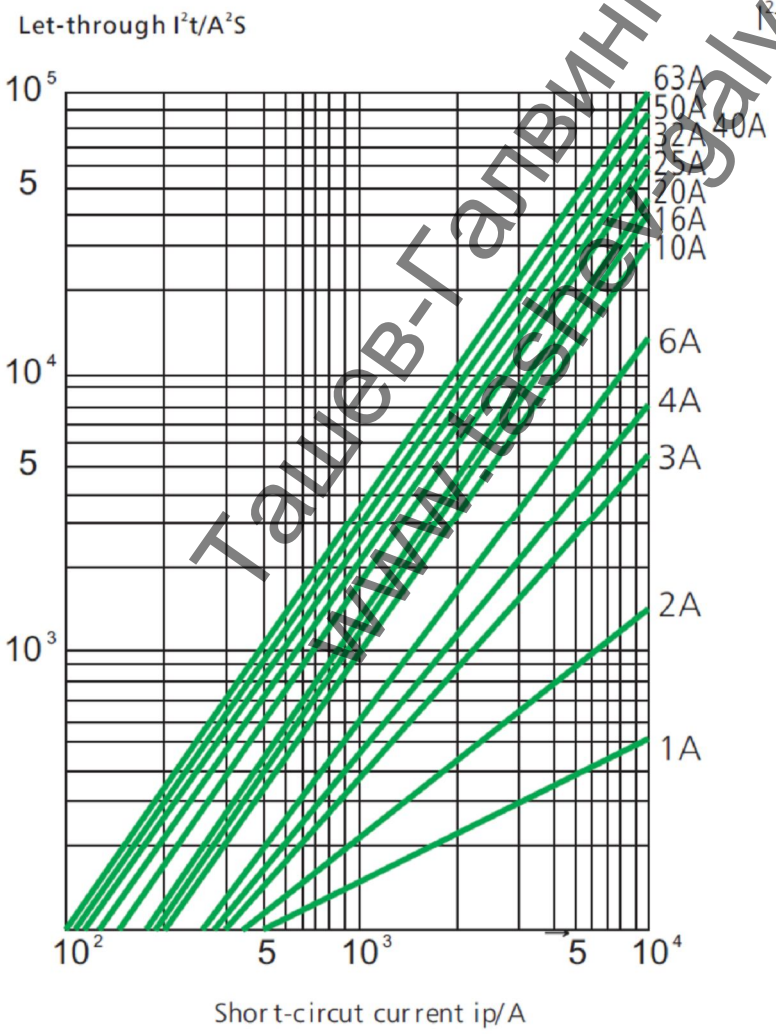


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INFLUENCE OF AMBIENT TEMPERATURE ON TRIPPING CURRENT

	- 35°C	- 30°C	- 20°C	- 10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C	70°C
2A	2,60	2,52	2,46	2,38	2,28	2,20	2,08	2,00	1,92	1,86	1,76	1,66
4A	5,20	5,04	4,92	4,76	4,56	4,40	4,16	4,00	3,84	3,76	3,52	3,32
6A	7,80	7,56	7,38	7,14	6,84	6,60	6,24	6,00	5,76	5,64	5,28	4,98
10A	13,20	12,70	12,50	12,00	11,50	11,10	10,60	10,00	9,60	9,30	8,90	8,40
16A	21,12	20,48	20,00	19,20	18,40	17,76	16,96	16,00	15,36	14,88	14,24	13,44
20A	26,40	25,60	25,00	24,00	23,00	22,20	21,20	20,00	19,20	18,60	17,80	16,80
25A	33,00	32,00	31,25	30,00	28,75	27,75	26,50	25,00	24,00	23,25	22,25	21,00
32A	42,56	41,28	40,00	38,72	37,12	35,52	33,92	32,00	30,72	29,76	28,16	26,88
40A	53,20	51,20	50,00	48,00	46,40	44,80	42,40	40,00	38,40	37,20	35,60	33,60
50A	67,00	65,50	63,00	60,50	58,00	56,00	53,00	50,00	48,00	46,50	44,00	41,50
63A	83,79	81,90	80,01	76,86	73,71	70,56	66,78	63,00	60,48	58,90	55,44	52,29

LET-THROUGH ENERGY



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SHORT-CIRCUIT SELECTIVITY

Selectivity to Fuses characteristic
gG/gL

		Power supply side: fuse chracteristic gG/gL								
	I_N	20A	25A	36A	50A	63A	80A	100A	125A	160A
Load side: MCB, series AMPARO characteris-tic B. C	2A	1,2 kA	4 kA	6 kA	6 kA	6 kA	6 kA	6 kA	6 kA	6 kA
	4A	0,6 kA	0,9 kA	2,5 kA	3,8 kA	6 kA	6 kA	6 kA	6 kA	6 kA
	6A	0,5 kA	0,8 kA	1,9 kA	2,5 kA	4,5 kA	5 kA	6 kA	6 kA	6 kA
	10A		0,7 kA	1,4 kA	2,2 kA	3,2 kA	3,6 kA	6 kA	6 kA	6 kA
	16A			1,2 kA	1,8 kA	2,6 kA	3 kA	5,6 kA	6 kA	6 kA
	20A				1,5 kA	2,2 kA	2,5 kA	4,6 kA	6 kA	6 kA
	25A				1,3 kA	2 kA	2,2 kA	4,1 kA	5,5 kA	6 kA
	32A					1,7 kA	1,9 kA	3,8 kA	4,5 kA	6 kA
	40A						1,7 kA	3 kA	4 kA	5 kA
	50A						1,5 kA	2,6 kA	3,5 kA	4,5 kA
	63A							2,4 kA	3,3 kA	4,5 kA

Selectivity to MCCB type MC1

		Power supply side: MCCB series MC1				
	I_N	40 A	50 A	63 A	80 A	100 A
Load side: MCB, series AMPARO characteristic B	2A	2 kA	6 kA	6 kA	6 kA	6 kA
	4A	1,2 kA	2 kA	3 kA	3 kA	6 kA
	6A	1,2 kA	2 kA	2,5 kA	3 kA	5 kA
	10A	1,2 kA	1,5 kA	2 kA	2 kA	4 kA
	16A	1 kA	1,2 kA	1,5 kA	2 kA	3 kA
	20A	0,8 kA	1,2 kA	1,5 kA	1,5 kA	3 kA
	25A	0,7 kA	1,2 kA	1,5 kA	1,5 kA	3 kA
	32A	-	1,2 kA	1 kA	1,5 kA	2 kA
	40A	-	-	1 kA	1,5 kA	2 kA
	50A	-	-	-	1,2 kA	1,5 kA
	63A	-	-	-	-	1,5 kA

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Selectivity to MCCB type MC1

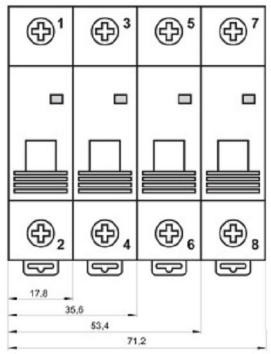
		Power supply side: MCCB series MC1				
	I_N	40 A	50 A	63 A	80 A	100 A
Load side: MCB, series AMPARO characteristic C	2A	2 kA	6 kA	6 kA	6 kA	6 kA
	4A	1,2 kA	2 kA	3 kA	3 kA	6 kA
	6A	1,2 kA	2 kA	2,5 kA	3 kA	5 kA
	10A	1,2 kA	1,5 kA	2 kA	2 kA	4 kA
	16A	1 kA	1,2 kA	1,5 kA	2 kA	3 kA
	20A	0,8 kA	1,2 kA	1,5 kA	1,5 kA	3 kA
	25A	0,7 kA	1,2 kA	1,5 kA	1,5 kA	3 kA
	32A	-	1,2 kA	1 kA	1,5 kA	2 kA
	40A	-	-	1 kA	1,5 kA	2 kA
	50A	-	-	-	1,2 kA	1,5kA
	63A	-	-	-	-	1,5 kA

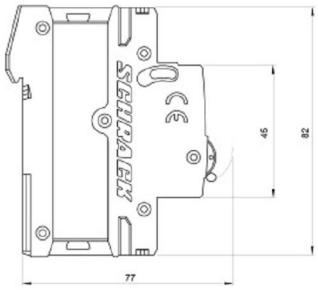
		Power supply side: MCCB series MC2				
	I_N	40 A	50 A	63 A	80 A	100 A
Load side: MCB, series AMPARO characteristic B	2A	3 kA	6 kA	6 kA	6 kA	6 kA
	4A	1,2 kA	1,5 kA	3 kA	4 kA	6 kA
	6A	1,2 kA	1,5 kA	2,5 kA	3 kA	6 kA
	10A	1 kA	1,5 kA	2,5 kA	3 kA	6 kA
	13A	1 kA	1,2 kA	2 kA	3 kA	6 kA
	16A	1 kA	1,2 kA	1,5 kA	2,5 kA	6 kA
	20A	1 kA	1,2 kA	1,5 kA	2 kA	6 kA
	25A	0,8 kA	1 kA	1,5 kA	2 kA	6 kA
	32A		1 kA	1,5 kA	2 kA	6 kA
	40A			1,2 kA	1,5 kA	6 kA
	50A				1,5 kA	6 kA
	63A					6 kA

		Power supply side: MCCB series MC2				
	I_N	40 A	50 A	63 A	80 A	100 A
Load side: MCB, series AMPARO characteristic C	2A	3 kA	6 kA	6 kA	6 kA	6 kA
	4A	1,5 kA	1,5 kA	3 kA	4 kA	6 kA
	6A	1,2 kA	1,5 kA	2,5 kA	3 kA	6 kA
	10A	1 kA	1,5 kA	2,5 kA	3 kA	6 kA
	13A	1 kA	1,2 kA	2 kA	3 kA	6 kA
	16A	1 kA	1,2 kA	1,5 kA	2,5 kA	6 kA
	20A	1 kA	1,2 kA	1,5 kA	1,5 kA	6 kA
	25A	0,8 kA	1 kA	1,5 kA	2 kA	6 kA
	32A	-	1 kA	1,5 kA	2 kA	6 kA
	40A	-	-	1,2 kA	1,5 kA	6 kA
	50A	-	-	-	1,5 kA	6 kA
	63A	-	-	-	-	6 kA

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DIMENSIONS





ARTICLES

MCB Miniature Circuit Breakers series AMPARO, 6kA, 1-pole

Description	order no.
Characteristic B	
2A	AM618102--
4A	AM618104--
6A	AM618106--
10A	AM618110--
13A	AM618113--
16A	AM618116--
20A	AM618120--
25A	AM618125--
32A	AM618132--
40A	AM618140--
Characteristic C	
2A	AM617102--
4A	AM617104--
6A	AM617106--
10A	AM617110--
13A	AM617113--
16A	AM617116--
20A	AM617120--
25A	AM617125--
32A	AM617132--
40A	AM617140--
50A	AM617150--
63A	AM617163--

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MCB Miniature Circuit Breakers series AMPARO, 6kA, 1+N

Description	order no.
Characteris-tic B	
6A	AM618606--
10A	AM618610--
13A	AM618613--
16A	AM618616--
20A	AM618620--
25A	AM618625--
32A	AM618632--
40A	AM618640--
Characteris-tic C	
6A	AM617606--
10A	AM617610--
13A	AM617613--
16A	AM617616--
20A	AM617620--
25A	AM617625--
32A	AM617632--
40A	AM617640--
50A	AM617650--
63A	AM617663--

MCB Miniature Circuit Breakers series AMPARO, 6kA, 2-pole

Description	order no.
Characteris-tic B	
6A	AM618206--
10A	AM618210--
13A	AM618213--
16A	AM618216--
20A	AM618220--
25A	AM618225--
32A	AM618232--
40A	AM618240--
Characteris-tic C	
6A	AM617206--
10A	AM617210--
13A	AM617213--
16A	AM617216--
20A	AM617220--
25A	AM617225--
32A	AM617232--
40A	AM617240--
50A	AM617250--
63A	AM617263--

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MCB Miniature Circuit Breakers series AMPARO, 6kA, 3-pole

Description	order no.
Characteris-tic B	
6A	AM618306--
10A	AM618310--
13A	AM618313--
16A	AM618316--
20A	AM618320--
25A	AM618325--
32A	AM618332--
40A	AM618340--
Characteris-tic C	
6A	AM617306--
10A	AM617310--
13A	AM617313--
16A	AM617316--
20A	AM617320--
25A	AM617325--
32A	AM617332--
40A	AM617340--
50A	AM617350--
63A	AM617363--

MCB Miniature Circuit Breakers series AMPARO, 6kA, 3+N

Description	order no.
Characteris-tic B	
6A	AM618806--
10A	AM618810--
13A	AM618813--
16A	AM618816--
20A	AM618820--
25A	AM618825--
32A	AM618832--
40A	AM618840--
Characteris-tic C	
6A	AM617806--
10A	AM617810--
13A	AM617813--
16A	AM617816--
20A	AM617820--
25A	AM617825--
32A	AM617832--
40A	AM617840--
50A	AM617850--
63A	AM617863--

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