

RCBO

Residual current
circuit breakers
with overcurrent
protection

Types

RF11E A
KAFI2
KAFI4



KAFI2

Residual current
circuit breakers
with overcurrent
protection



Types

Type A
Type AC

Applications

RCBOs are used in applications where there is the need to combine protection against overcurrents (overload and short-circuit) and protection against earth leakage currents.

They are used in circuits with an increased requirements regarding touch voltage (bathrooms, event halls, schools, hospitals, swimming pools, marinas, distribution cabinets, mobile houses, etc.)

Features

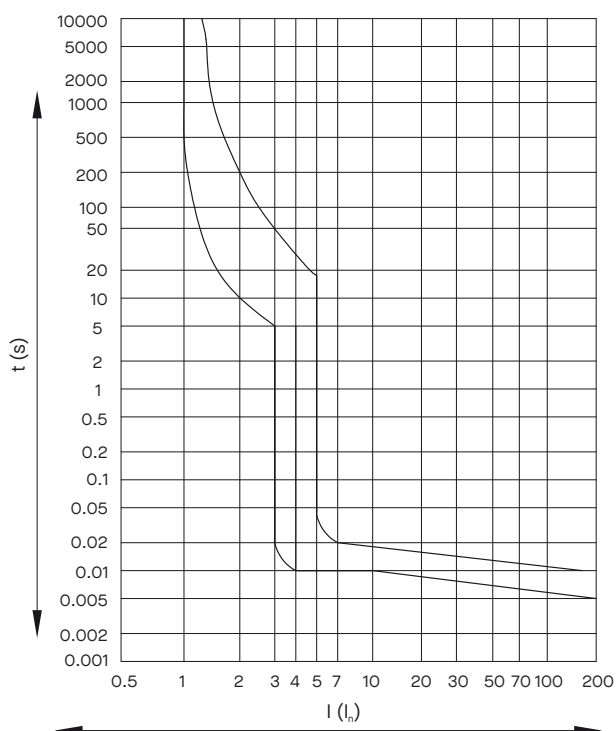
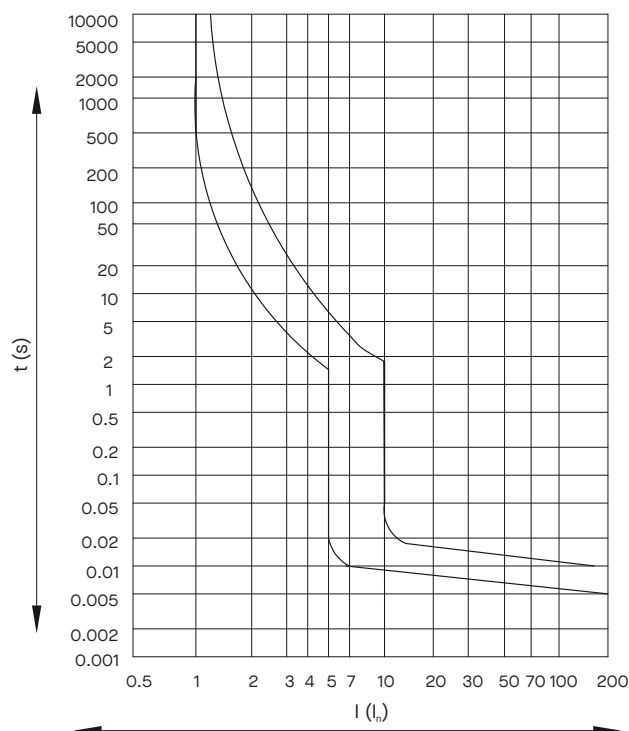
- ▶ Trip free mechanisms
- ▶ Earth fault indication window
- ▶ Wide range of breaking capacities for application from residential to industrial field
- ▶ Connection capacity 25mm² rigid and 16mm² flexible wire
- ▶ Assembly to a 35 mm wide mounting rail in accordance with EN 60715
- ▶ Optional operation position
- ▶ Degree of protection IP20, degree of protection IP40 after installation in a distribution box

Standards

- ▶ IEC 61009-1

KAFI2 characteristics

Technical data	Symbol	Unit	KAFI2
Standards			IEC 61009-1
Approvals			KEMA, CE
Module width			2
Number of poles			2
Rated voltage	U_n	V	240
Rated insulation voltage	U_i	V	400
Rated impulse withstand voltage	U_{imp}	kV	4
Tripping characteristics			B, C
Rated frequency	f	Hz	50/60
Rated current	I_n	A	6, 10, 16, 20, 25, 32, 40 (50, 63, only AC)
Rated residual current	$I_{\Delta n}$	mA	30, 100, 300
Type of residual current			A, AC
Residual tripping time		ms	<100
Rated short circuit capacity	I_{cn}	A	10.000
Rated residual making and breaking capacity	$I_{\Delta m}$	A	630
Electrical endurance		op. c.	4000
Back-up fuse gL/gG		A	40 (63)
Mechanical endurance		op. c.	10 000
Connecting clamps			lug type
Connecting wires		mm ²	1 ... 25
Mounting			DIN rail acc. to EN 60715
Ambient temperature		°C	-25 ... +40
Storage temperature		°C	-35 ... +60
Tightening torque			2
Protection degree		Nm	IP20

Tripping characteristics
Characteristics B acc. to EN 60 898

Characteristics C acc. to EN 60 898


KAFI2 — Characteristics

Type	Rated Current I_n (A)	Rated Residual Current $I_{\Delta n}$ (A)	Number of Poles	Ordering No.	Weight (g)	Packaging (pcs)
A characteristic C						
KAFI2 A C6/0.03	6	0.03	2	786.100.884	210	1
KAFI2 A C10/0.03	10	0.03	2	786.100.885	210	1
KAFI2 A C16/0.03	16	0.03	2	786.100.886	210	1
KAFI2 A C20/0.03	20	0.03	2	786.100.887	210	1
KAFI2 A C25/0.03	25	0.03	2	786.100.888	210	1
KAFI2 A C32/0.03	32	0.03	2	786.100.889	210	1
KAFI2 A C40/0.03	40	0.03	2	786.100.890	210	1

A characteristic B						
KAFI2 A B6/0.03	6	0.03	2	786.100.891	210	1
KAFI2 A B10/0.03	10	0.03	2	786.100.892	210	1
KAFI2 A B16/0.03	16	0.03	2	786.100.893	210	1
KAFI2 A B20/0.03	20	0.03	2	786.100.894	210	1
KAFI2 A B25/0.03	25	0.03	2	786.100.895	210	1
KAFI2 A B32/0.03	32	0.03	2	786.100.896	210	1
KAFI2 A B40/0.03	40	0.03	2	786.100.897	210	1
KAFI2 A B16/0.1	16	0.1	2	786.101.212	210	1
KAFI2 A B20/0.1	20	0.1	2	786.101.213	210	1
KAFI2 A B25/0.1	25	0.1	2	786.101.214	210	1
KAFI2 A B25/0.3	25	0.3	2	786.101.215	210	1

AC characteristic C						
KAFI2 AC C6/0.03	6	0.03	2	786.100.996	210	1
KAFI2 AC C10/0.03	10	0.03	2	786.100.997	210	1
KAFI2 AC C16/0.03	16	0.03	2	786.100.998	210	1
KAFI2 AC C20/0.03	20	0.03	2	786.100.999	210	1
KAFI2 AC C25/0.03	25	0.03	2	786.101.004	210	1
KAFI2 AC C32/0.03	32	0.03	2	786.101.005	210	1
KAFI2 AC C40/0.03	40	0.03	2	786.101.006	210	1

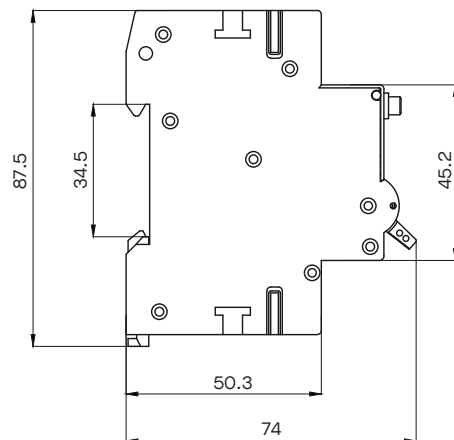
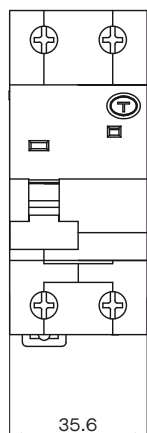
AC characteristic B						
KAFI2 AC B6/0.03	6	0.03	2	786.101.007	210	1
KAFI2 AC B10/0.03	10	0.03	2	786.101.008	210	1
KAFI2 AC B16/0.03	16	0.03	2	786.101.009	210	1
KAFI2 AC B20/0.03	20	0.03	2	786.101.010	210	1
KAFI2 AC B25/0.03	25	0.03	2	786.101.011	210	1
KAFI2 AC B32/0.03	32	0.03	2	786.101.012	210	1
KAFI2 AC B40/0.03	40	0.03	2	786.101.013	210	1

Ordering data

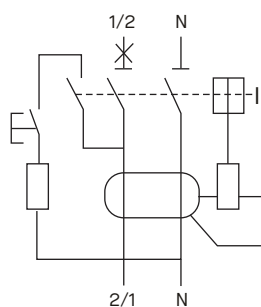
KAFI2	B	-	16	-	0.03	
						Rated residual operating current $I_{\Delta n}$ (A)
						Rated current I_n (A)
						Tripping characteristics
						Type

Dimensions

(mm)



Wiring diagram



KAFI4

Residual current circuit breakers with overcurrent protection



Types

Type A

Applications

RCBOs are used in applications where there is the need to combine protection against overcurrents (overload and short-circuit) and protection against earth leakage currents.

They are used in circuits with an increased requirements regarding touch voltage (bathrooms, event halls, schools, hospitals, swimming pools, marinas, distribution cabinets, mobile houses, etc.)

Features

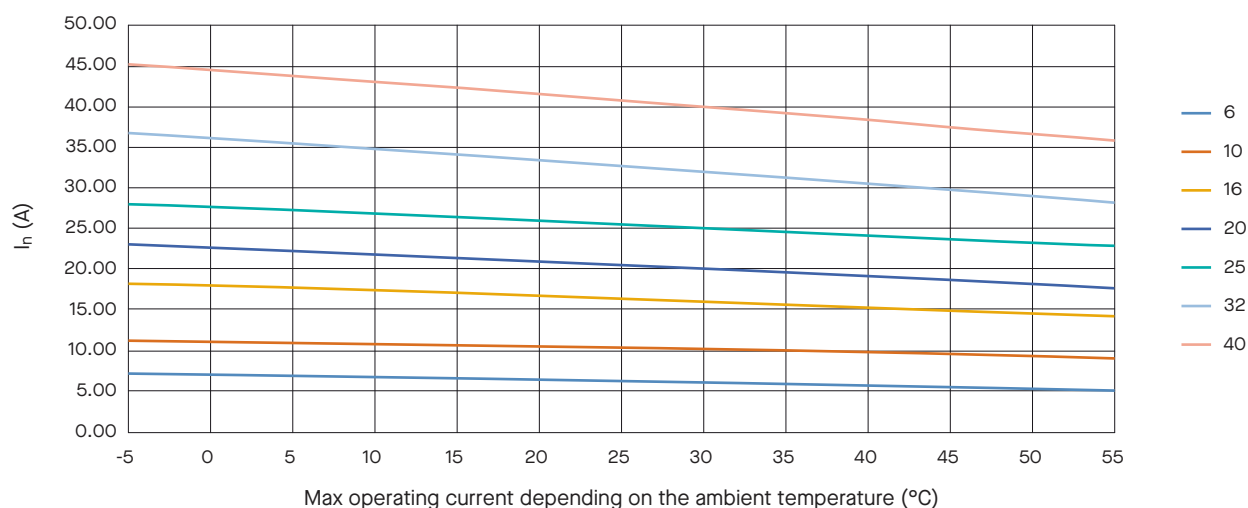
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- ▶ Degree of protection IP20, degree of protection IP40 after installation in a distribution box

Standards

- ▶ IEC 61009-1

KAFI4 Type A

Technical data	Symbol	Unit	KAFI4
Standards			IEC 61009-1
Approvals			CE
Module width			4
Number of poles			4
Rated voltage	U_n	V	240
Rated insulation voltage	U_i	V	400
Rated impulse withstand voltage	U_{imp}	kV	4
Tripping characteristics			B, C
Rated frequency	f	Hz	50/60
Rated current	I_n	A	6, 10, 16, 20, 25, 32, 40
Rated residual current	$I_{\Delta n}$	mA	30, 100, 300
Type of residual current			A
Residual tripping time		ms	<100
Rated short circuit capacity	I_{cn}	A	10.000
Rated residual making and breaking capacity	$I_{\Delta m}$	A	630
Electrical endurance		op. c.	4000
Back-up fuse gL/gG		A	40 (63)
Mechanical endurance		op. c.	10 000
Connecting clamps			lug type
Connecting wires		mm ²	1 ... 25
Mounting			DIN rail acc. to EN 60715
Ambient temperature		°C	-25 ... +40
Storage temperature		°C	-35 ... +60
Tightening torque			2.5
Protection degree		Nm	IP20

Derating temperature


Temperature °C	-5	0	5	10	15	20	25	30	35	40	45	50	55
I_n (A)													
6	7.08	6.94	6.79	6.65	6.49	6.33	6.16	6.00	5.80	5.61	5.48	5.29	5.10
10	11.15	10.99	10.85	10.68	10.52	10.35	10.18	10.00	9.82	9.64	9.46	9.24	9.06
16	18.26	17.98	17.68	17.33	17.12	16.58	16.33	16.00	15.68	15.26	14.91	14.52	14.16
20	22.98	22.49	22.09	21.68	21.26	20.86	20.43	20.00	19.58	19.11	18.68	18.12	17.58
25	27.95	27.58	27.19	26.82	26.31	25.95	25.46	25.00	24.56	24.08	23.54	23.18	22.66
32	36.68	36.02	35.42	34.78	34.15	33.45	32.73	32.00	31.28	30.55	29.81	28.98	28.12
40	45.22	44.56	43.78	43.05	42.33	41.56	40.77	40.00	39.19	38.35	37.46	36.66	35.74

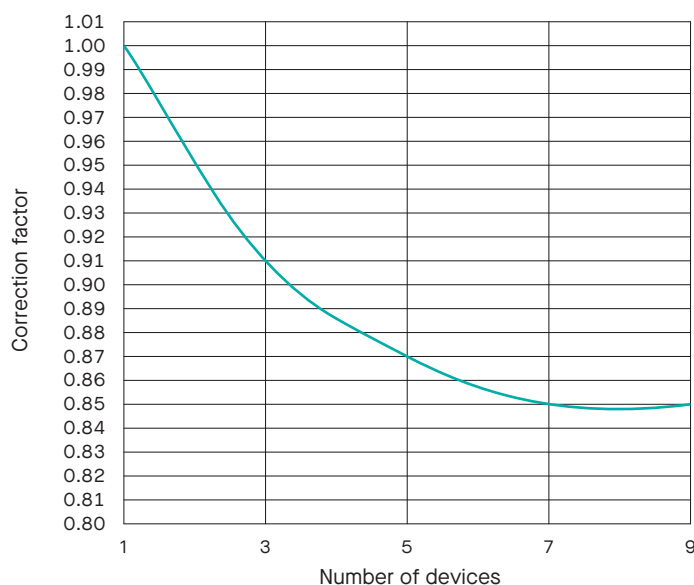
KAFI4 — Characteristics

Type	Rated Current I_n (A)	Rated Residual Current $I_{\Delta n}$ (A)	Number of Poles	Ordering No.	Weight (g)	Packaging (pcs)
KAFI4 characteristic B						
KAFI4 A B16/0.1	16	0,1	4	786.101.216	465	1
KAFI4 A B20/0.1	20	0,1	4	786.101.217	465	1
KAFI4 A B25/0.1	25	0,1	4	786.101.218	465	1
KAFI4 A B32/0.1	32	0,1	4	786.101.219	465	1
KAFI4 A B6/0,03	6	0,03	4	786.100.898	465	1
KAFI4 A B10/0,03	10	0,03	4	786.100.899	465	1
KAFI4 A B16/0,03	16	0,03	4	786.100.900	465	1
KAFI4 A B20/0,03	20	0,03	4	786.100.901	465	1
KAFI4 A B25/0,03	25	0,03	4	786.100.902	465	1
KAFI4 A B32/0,03	32	0,03	4	786.100.903	465	1
KAFI4 A B40/0,03	40	0,03	4	786.100.904	465	1
KAFI4 A B6/0,3	6	0,03	4	786.100.905	465	1
KAFI4 A B10/0,3	10	0,03	4	786.100.906	465	1
KAFI4 A B16/0,3	16	0,03	4	786.100.907	465	1
KAFI4 A B20/0,3	20	0,03	4	786.100.908	465	1
KAFI4 A B25/0,3	25	0,03	4	786.100.909	465	1
KAFI4 A B32/0,3	32	0,03	4	786.100.910	465	1
KAFI4 A B40/0,3	40	0,03	4	786.100.911	465	1
KAFI4 characteristic C						
KAFI4 A C6/0,03	6	0.03	4	786.100.929	465	1
KAFI4 A C10/0,03	10	0.03	4	786.100.930	465	1
KAFI4 A C16/0,03	16	0.03	4	786.100.931	465	1
KAFI4 A C20/0,03	20	0.03	4	786.100.932	465	1
KAFI4 A C25/0,03	25	0.03	4	786.100.933	465	1
KAFI4 A C32/0,03	32	0.03	4	786.100.934	465	1
KAFI4 A C40/0,03	40	0.03	4	786.100.935	465	1
KAFI4 A C6/0,3	6	0,3	4	786.100.936	465	1
KAFI4 A C10/0,3	10	0,3	4	786.100.937	465	1
KAFI4 A C16/0,3	16	0,3	4	786.100.938	465	1
KAFI4 A C20/0,3	20	0,3	4	786.100.939	465	1
KAFI4 A C25/0,3	25	0,3	4	786.100.955	465	1
KAFI4 A C32/0,3	32	0,3	4	786.100.956	465	1
KAFI4 A C40/0,3	40	0,3	4	786.100.957	465	1

Ordering data

KAFI4	B	-	16	-	0.03	
						Rated residual operating current $I_{\Delta n}$ (A)
						Rated current I_n (A)
						Tripping characteristics
						Type

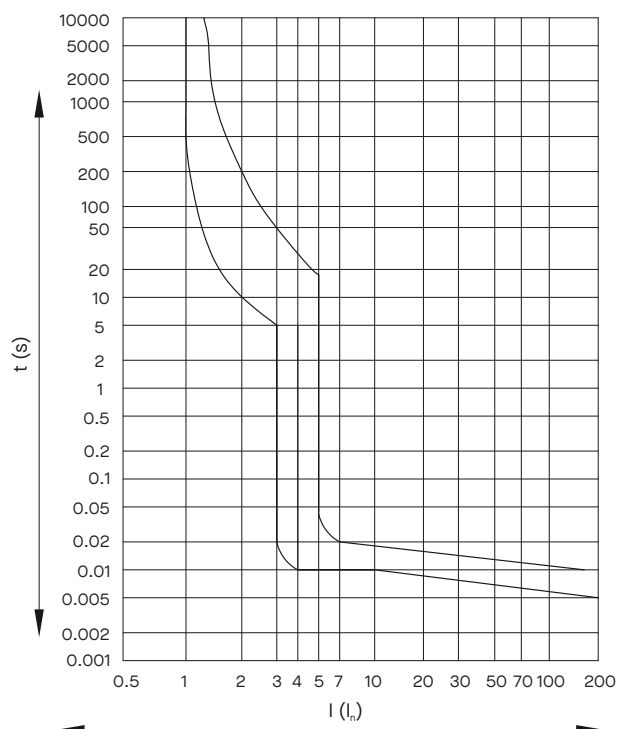
Influence of adjacent devices



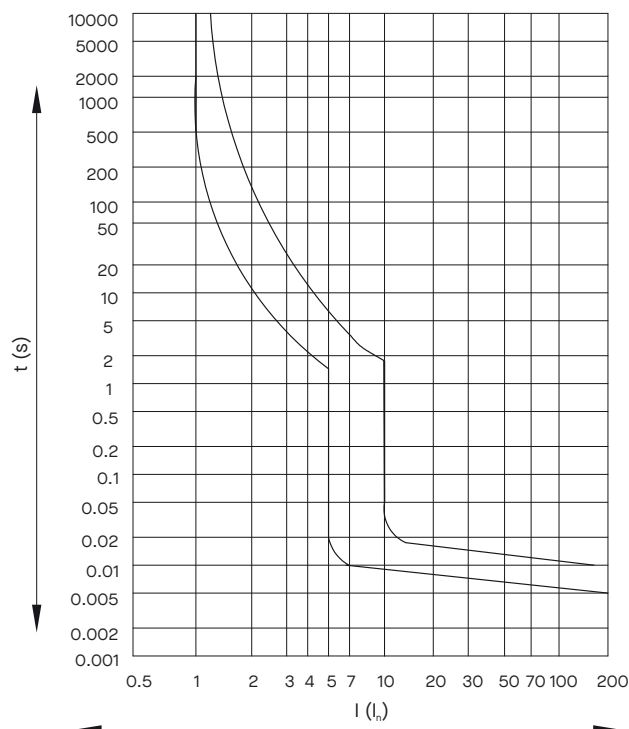
Number of adjacent devices	Correction factor K
1	1
3	0.91
5	0.87
7	0.85
9	0.85

Tripping characteristics

Characteristics B acc. to EN 60 898

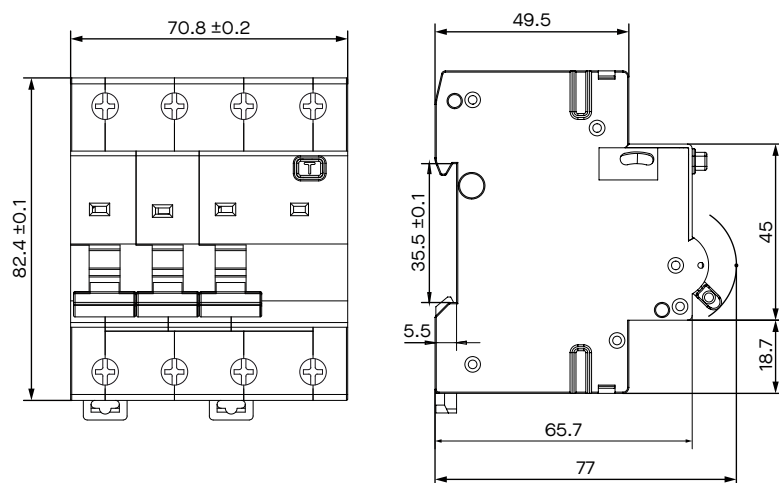


Characteristics C acc. to EN 60 898



Dimensions

(mm)



Wiring diagram

