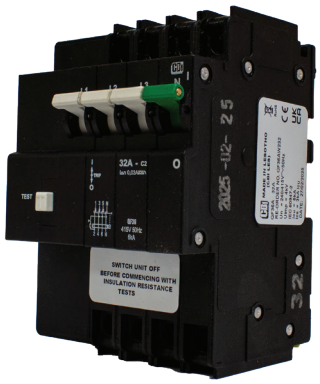
a Reinert company

Q-SERIES

QF36-FRAME EARTH LEAKAGE



QF36A
Dual (DIN & mini rail) mount

PRODUCT INTRODUCTION

The QF36 Series is a high-performance Earth Leakage Circuit Breaker (ELCB) with hydraulic-magnetic technology, ideal for applications requiring reliable protection from electric shock and fire hazards. It features 100% ambient temperature-independent tripping, making it highly effective in extreme conditions ranging from -40°C to +85°C.

FEATURES

- Hydraulic-magnetic technology
- 100% rating capability, independent of ambient temperature
- Complies with IEC 60947-2
- Ratings 6 to 32 A
- Earth Leakage sensitivity 30 mA, **Type A**
- Three pole plus switched neutral earth leakage protection
- Precision tripping characteristics
- Trip indication with mid-trip position
- Can be switched on immediately after tripping
- Suitable to use for electrical isolation
- Shell designed for easier installation onto busbar
- 57 mm front escutcheon

APPLICATIONS

- Residential and commercial applications requiring high sensitivity earth leakage protection from electrical shock and fire hazards
- Telecom/datacom equipment
- Lighting control
- UPS equipment
- Alternative energy equipment

APPROVALS

CE UKCA

(EN/IEC 60947-2)

TECHNICAL DATA

ELECTRICAL	
Dielectric Strength	1 000 - 2 000 Vac for one minute (IEC 60947-2 Clause 8.3.3.3)*
Time Delay Curves	Curve 2 - medium time delay

MECHANICAL	
Endurance	10 000 operations; 1 500 with current, 8 500 without current (IEC 60947-2 Clause 7.2.4.2)*

ENVIRONMENTAL	
Operating Temperature Range	-40°C to +85°C
Altitude	Certification tests done at altitude ≈ 2 000 metres. Will operate at higher altitudes.
Shock	10 G (IEC 60068-2-27)
Vibration	1.5 G (IEC 60068-2-6) (sinusoidal wave)
Flammability	I3 - Ignition does not persist at 850°C after glow wire is withdrawn with an oxygen index of ≥ 28
Toxicity	F1 - Smoke index of ≤ 20 which determines the fume class
Pollution Degree	PD2 - Normally only non-conductive pollution occurs. Temporary conductivity caused by condensation is to be expected.

PHYSICAL	
Mounting Options	Dual (DIN & mini rail) mount
Number of poles	4 (3+N) - Three pole plus switched neutral earth leakage protection
Weight	570 g per pole (unpacked)
Standard Colours	Shell - black Handle - white and green

Approvals	EN/IEC 60947-2
Product Type	QF36
Number of Poles	3+N
Standard Ampere Ratings	6 A to 32 A
Sensitivity	30 mA
Equipment Type Rated Voltage	415 Vac
Ultimate S/C breaking Capacity (Icu)	6 kA

Earth Leakage	Wire Size (IEC)	Torque (IEC)	Comments
Main Terminal	0.75 mm² - 35 mm²	2.5 Nm	Pozidriv #2 Combi head

LONG CODE

Example Code: Q-F-36-A---DM-2-32A-30mA-415V----

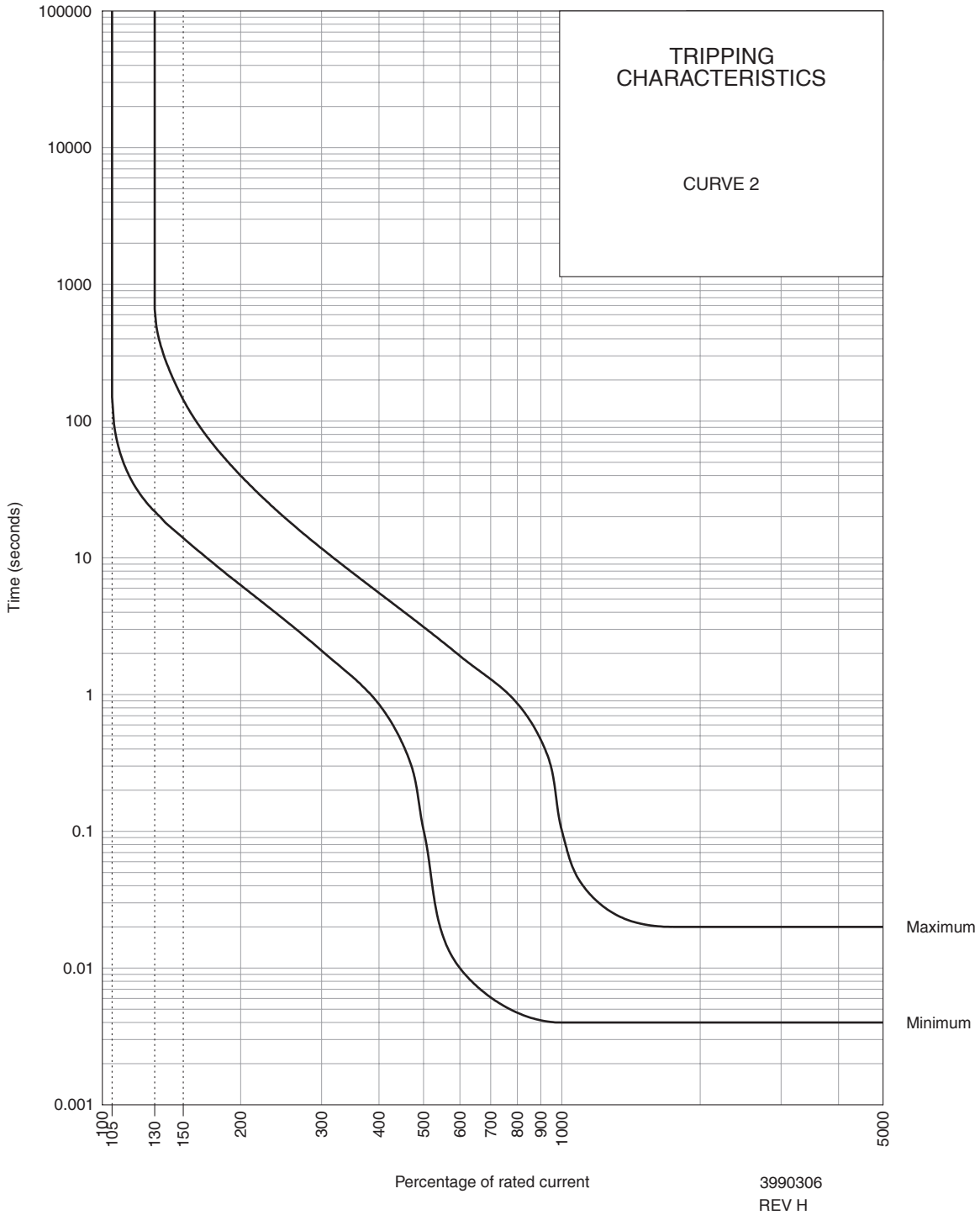
Group	1	2	3	4	5	6	7	8	9	10	11	12	13
Requirement	Q frame	Type F	1 + pole+N	Overload	No Auxiliary or additional pole	Dual Mount	Medium delay curve 2	Current rating 32 A	Sensitivi-ty 30 mA	Voltage 415 Vac	Future use	Future use	Future use
Long Code	**Q**	**F**	**36**	**A**	**-**	**DM**	**2**	**32 A**	**30 mA**	**415 V**	**-**	**-**	**-**

ORDERING INFORMATION

Group 1: Frame Type	**Code**	**Description**	**Comments**	
	Q	Earth leakage		
Group 2: Product Type	**Code**	**Description**	**Comments**	
	F	415 Vac		
Group 3: No of Poles	**Code**	**Description**	**Comments**	
	36	Three pole plus switched neutral (3+N)	36 mm wide	
Group 4: E-L Type	**Code**	**Description**	**Comments**	
	A	Overload	White and green handle	
Group 5: Auxiliary / Additional Pole	**Code**	**Description**	**Comments**	
	-	Not applicable		
Group 6: Mounting	**Code**	**Description**	**Comments**	
	DM	Dual (DIN & mini rail) mount	Dual mount supplied in black shell only - 57 mm escutcheon	
Group 7: Time Delays	**Code**	**Description**	**Instantaneous Trip Point (x In)**	**Comments**
	2	Medium time delay	5 – 10	
Group 8: Current Ratings	**Code**	**Description**	**Comments**	
		6 - 32 A		
Group 9: Sensitivity	**Code**	**Description**	**Comments**	
	30 mA	30 mA	Standard	
Group 10: Voltage	**Code**	**Description**	**Comments**	
	415 V	415 Vac		
Group 11 Future Use	**Code**	**Description**	**Comments**	
	-	Not applicable	For future use	
Group 12 Future Use	**Code**	**Description**	**Comments**	
	-	Not applicable	For future use	
Group 13 Future Use	**Code**	**Description**	**Comments**	
	-	Not applicable	For future use	

For options not listed, please contact CBi

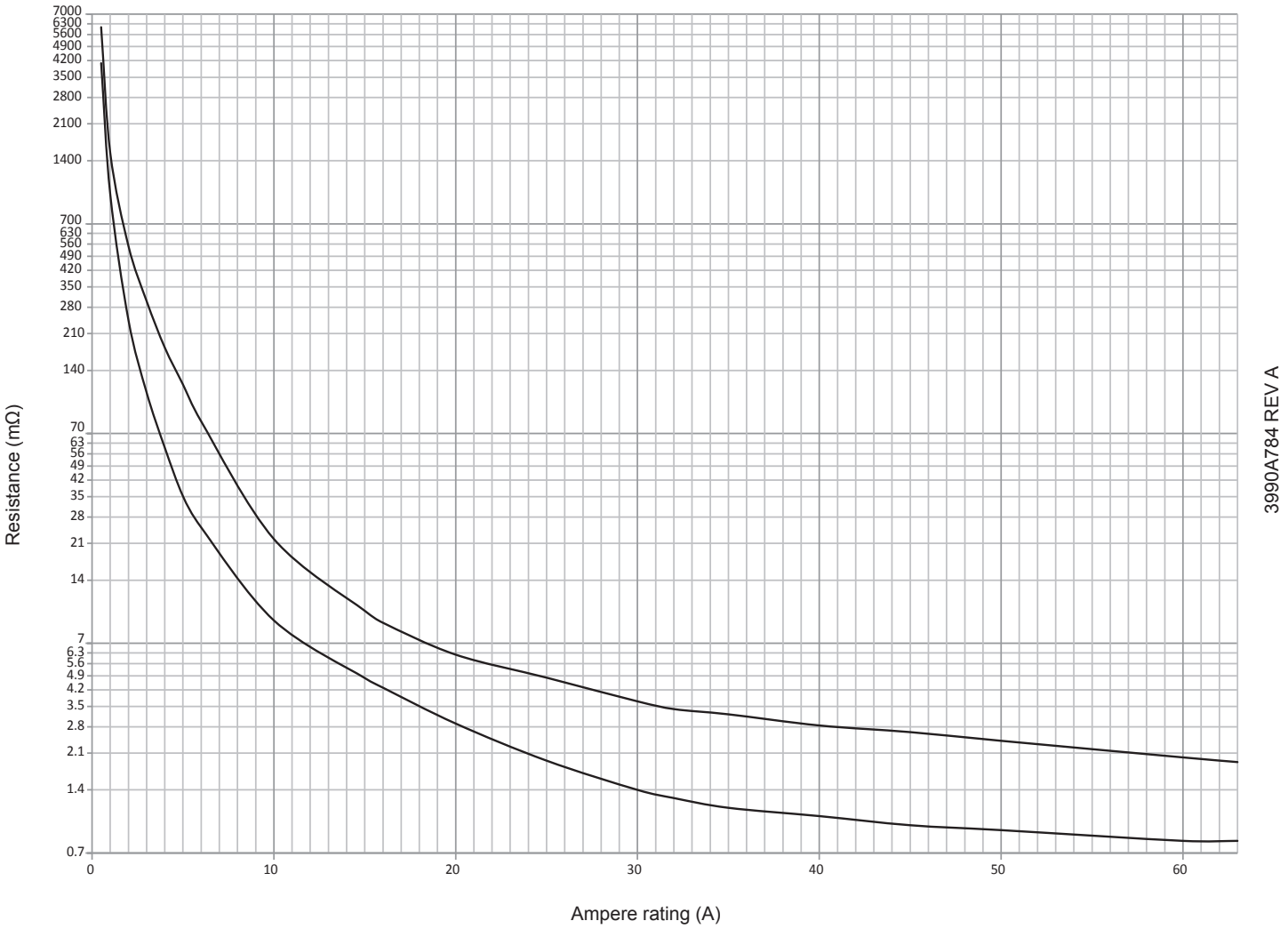
TIME DELAY CURVES



PERCENTAGE OF RATED CURRENT	105%	130%	145%	150%	200%	300%	400%	500%	600%	700%	800%	900%	1000%	2000%
MINIMUM TRIP TIME IN SECONDS	NO TRIP	22	15.4	14	6.3	2.1	0.85	0.1	0.001	0.006	0.005	0.041	0.004	0.004
MAXIMUM TRIP TIME IN SECONDS	NO TRIP	660	180	144	40	12	5.5	3	1.92	1.3	0.86	0.47	0.1	0.02

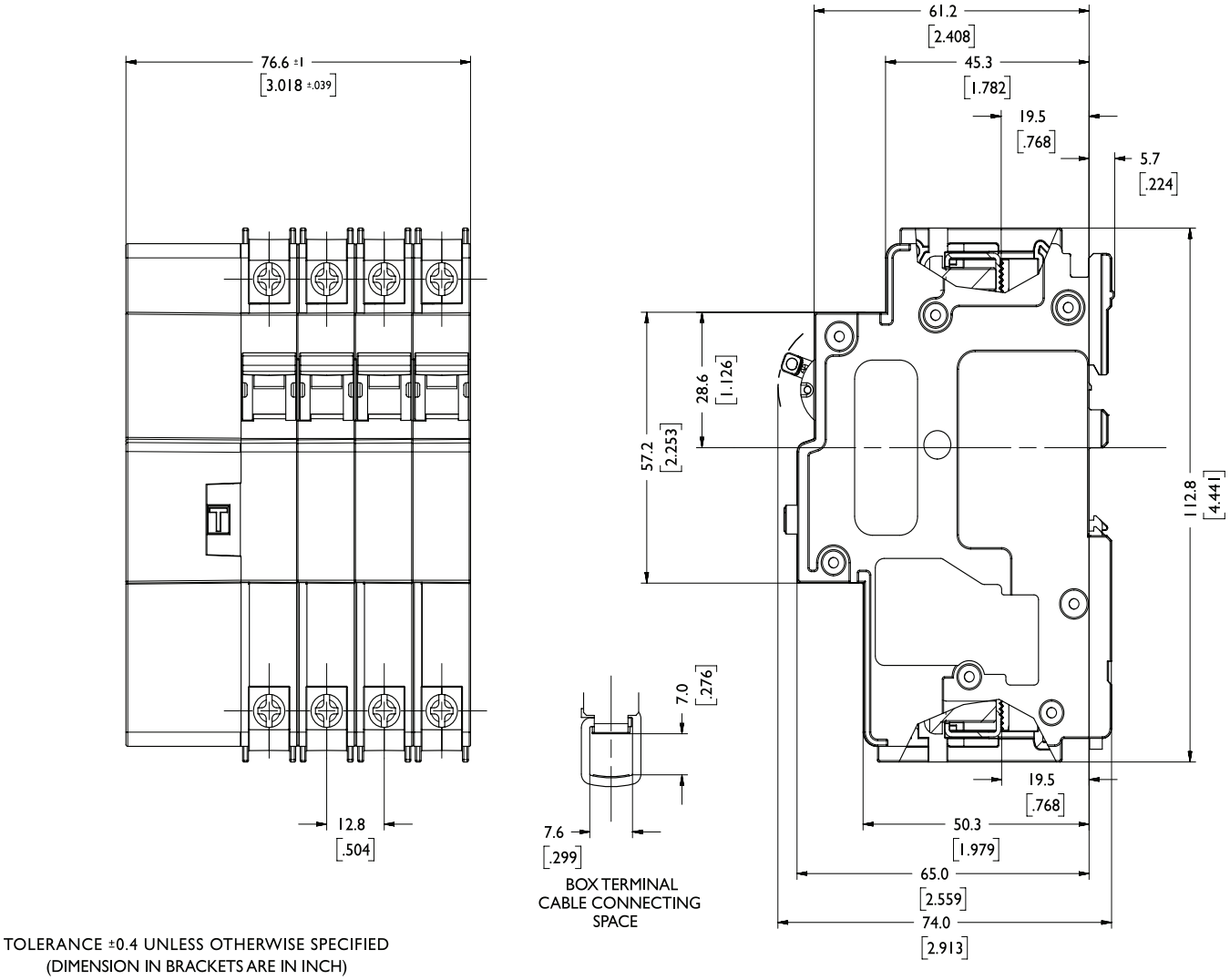
* The published time delay curves are generated at 30°C ambient temperature with the Circuit Breaker mounted in the up-right position. The “must hold”, “must trip” and “instantaneous trip” current values are not affected by temperature, although delay time for the other operating current values may have to be adjusted using the temperature compensation curve which is available on request.

INTERNAL IMPEDANCE VS CURRENT RATING



Amp RATING	0.5	1	2	5	6	10	15	20	25	30	32	40	50	60	63
MINIMUM (mΩ)	4085	970	244	35	25	9.0	4.8	2.9	1.9	1.4	1.3	1.1	0.9	0.8	0.8
MAXIMUM (mΩ)	6065	1527	550	120	80	22	10	6.2	4.8	3.7	3.4	2.8	2.4	2.0	1.9

OUTLINE DIMENSIONS: DUAL (DIN & MINI RAIL) MOUNT



TOLERANCE ±0.4 UNLESS OTHERWISE SPECIFIED
(DIMENSION IN BRACKETS ARE IN INCH)

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