

YF-Frame - Miniature Circuit Breakers



1 Pole
DIN mount



1 Pole
DIN mount



2 Pole
DIN mount



4 Pole
DIN mount

Features

- AC and DC circuit breaker
- Ultra compact - 13 mm wide module
- Hydraulic-magnetic technology
- Can be switched on immediately after tripping
- **YFD** - DIN mount, 45 mm front escutcheon (**Grey**)
- **YFM** - DIN mount, 57 mm front escutcheon (**Black**)
- **YFK** - Dual (DIN & Mini) mount, 57 mm front escutcheon (**Black**)
- ON and OFF indication
- Suitable for electrical isolation
- 100% rated current capability, independent of ambient temperature
- One, two, three, four pole, 1P + N and 3P + N
- RoHS compliant
- Box type main terminals

Applications

- AC and DC branch circuit protection
- Telecom / datacom equipment
- Lighting control
- UPS equipment
- Alternative energy equipment
- Mobile power generation equipment
- Railway signalling equipment
- Residential equipment
- Industrial equipment

Auxiliary Switch and Trip Alarm Features

- Auxiliary switch
- AC and DC voltages
- IEC 60947-5-1 (6 A 240 Vac, 0.5 A 110 Vdc)
- GB14048.5 approved
- Factory fitted
- Attached to right hand side of circuit breaker
- Compact 6.5 mm width



(UL489; CSA C22.2 NO.5)



(GB14048.2)



(IEC 60947-2)



Note:
All information subject to testing and certification. For the latest information contact CBI.



Hydraulic-Magnetic Circuit Breakers 100% rated, unaffected by ambient temperature

YF-Frame - Miniature Circuit Breakers

Technical Data

Product Type	Circuit Breaker YF				
Approvals	IEC 60947-2, GB 14048.2, CE, UKCA				
Number of Poles	1	2 (1+N)	2	3	4 (3+N)
Operating Voltages	240 Vac		415 Vac		
Minimum Current Rating	0.5 A				
Maximum Current Rating	32 A				
Ultimate S/C Breaking Capacity (Icu)	6 kA				

Product Type	Circuit Breaker YF			
Approvals	UL 489			
Number of Poles	1	2	2	3
Operating Voltages	240 Vac, 80 Vdc	240 Vac	120 / 240 Vac, 80 Vdc	240 Vac, 80 Vdc
Minimum Current Rating	0.5 A	0.5 A	0.5 A	0.5 A
Maximum Current Rating	32 A	25 A	32 A	32 A
Ampere Interrupting Capacity (AIC)	10 kA			

* YF Frame is also certified to operate at 80 Vdc

Verify approvals for specific ratings in accordance with the relevant test certificates.

Product Type	Circuit Breaker YF
Ambient Operating Temperature	-40 °C to +85 °C
Mounting Options	Dual (DIN & Mini) mount, DIN rail mount
Time Delay Curves	Various
Endurance	10000 operations; 1500 with current, 8500 without current (IEC 60947-2 Clause 7.2.4.2)*
Dielectric Strength	1000 - 2000 Vac for one minute (IEC 60947-2 Clause 8.3.3.3)*
Rated Impulse Withstand Voltage	4 kV (IEC 60947-2 Clause 8.3.3.2)*
Weight	110 g per pole
Altitude	Certification tests conducted at altitude ≈ 2000 metres. Will operate at higher altitudes.
Shock	20 G (IEC 60068-2-27)
Vibration	3 G (IEC 60068-2-64) (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.

* Refer to the standard for details

Breaker YF	Wire Size (IEC)	Wire Gauge (UL)	Torque (IEC)	Torque (UL)	Comments
Main Terminals	2.5 mm ² to 16 mm ²	18 – 6 AWG	3.5 N.m	30 lbf.in	Pz #2 Combi head

Note:

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YF-Frame - Miniature Circuit Breakers

Long Code

Example Code: YFD- - -1 -(13)-M-32A- - - - -

Group	1	2	3	4	5	6	7	8	9	10
Requirement	YFD frame	Auxiliary	Number of poles	Module width	Time delay curve	Current rating	N/A	Shunt trip	Termination	Customer Specific
Long Code	YFD	-	1	(13)	M	32A	-	-	-	-

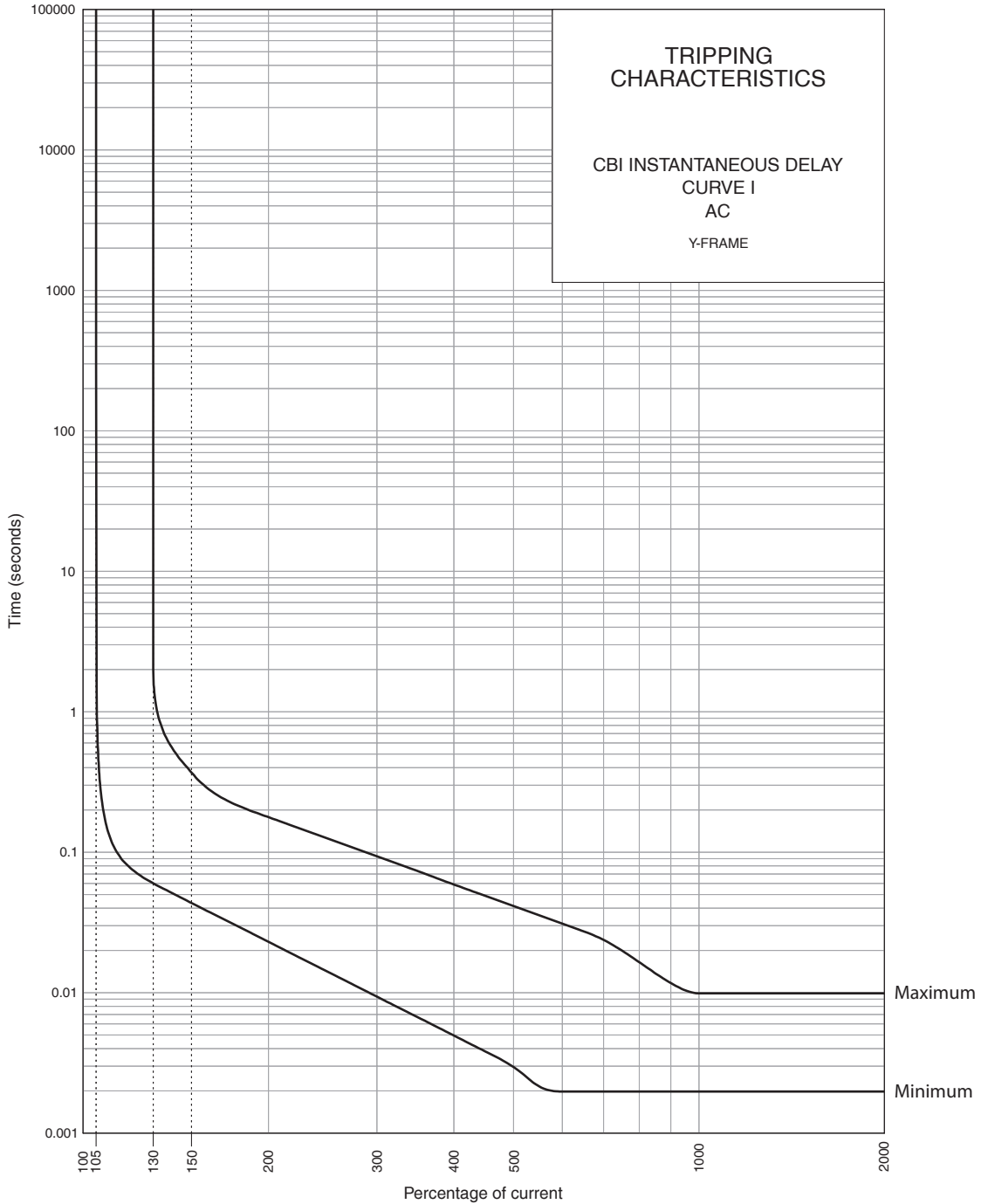
Ordering Information

Group	Code	Description	Comments
Group 1: Frame Type	YFD	YF - Frame (13 mm circuit breaker DIN mounting 45 mm front escutcheon)	Grey shell
	YFK	YF - Frame (13 mm circuit breaker Dual (DIN & Mini rail) mount 57 mm front escutcheon)	Black shell
	YFM	YF - Frame (13 mm circuit breaker DIN mounting 57 mm front escutcheon)	Black shell
Group 2: Auxiliary	-	Not applicable	Use this if no Aux switch is required
	A	Auxiliary switch	(IEC 60947-2 only)
	T	Trip alarm	(IEC 60947-2 only)
	AT	Auxiliary switch & Trip alarm	(IEC 60947-2 only)
Group 3: Number of poles	1	One pole	
	2	Two pole	2P, 1P + N
	3	Three pole	
	4	Four pole	3P + N
Group 4: Module Width	(13)	13 mm module	
Group 5: Time Delay	I	Instantaneous delay	
	S	Short delay	
	M	Medium delay	
	L	Long delay	
Group 6: Current Rating		0.5, 1, 2, 3, 5, 6, 10, 15, 16, 20, 25, 30, 32 A	
Group 7: Voltage Rating	ACS	240 Vac, 80 Vdc	(DC UL489 approval only)
	ACM	120 / 240 Vac, 240 Vac, 415 Vac, 80 Vdc	(DC UL489 approval only)
Group 8: Neutral / Shunt trip	-	Not applicable	If shunt trip not required
	C	12 Vdc Shunt trip (Box terminals)	Recommended pulse tolerance 100 ms - 60 s Note: Shunt trip option carries no approvals - available as a special order only
	D	24 Vdc Shunt trip (Box terminals)	
	E	48 Vdc Shunt trip (Box terminals)	
	G	110 Vdc or 110 Vac (Box terminals)	
	H	220 - 240 Vac Shunt trip (Box terminals)	
	K	Neutral + 110 Vdc or 110 Vdc Shunt trip (Flying leads)	
	L	Neutral + 48 Vdc Shunt trip (Flying leads)	
	M	Neutral + 24 Vdc Shunt trip (Flying leads)	
	N	Neutral	
	V	Neutral + 12 Vdc Shunt trip (Flying leads)	
	W	Neutral + 220 - 240 Vac Shunt trip (Flying leads)	
Group 9: Termination	-	Standard box terminal	
Group 10: Customer Specific	-	Not applicable	

For options not listed, please contact CBI for assistance

YF-Frame - Miniature Circuit Breakers

Time Delay Curve



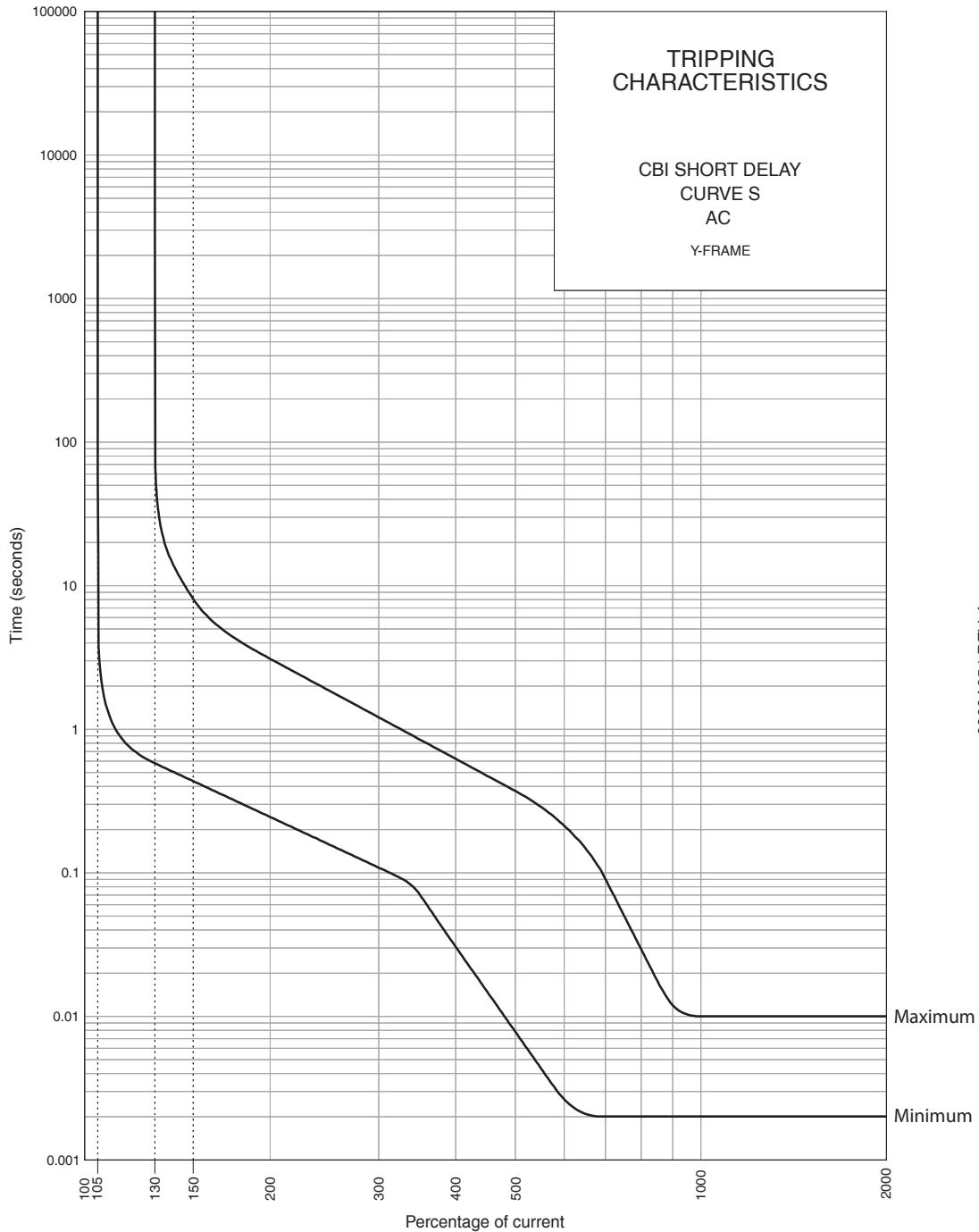
3990A961 REV. A

PERCENTAGE OF RATED CURRENT	105%	130%	150%	200%	300%	400%	500%	600%	700%	800%	900%	1000%	1200%
MINIMUM TRIP TIME IN SECONDS	NO TRIP	0.06	0.04	0.02	0.009	0.005	0.003	0.002	0.002	0.002	0.002	0.002	0.002
MAXIMUM TRIP TIME IN SECONDS	NO TRIP	2	0.4	0.2	0.09	0.1	0.04	0.03	0.02	0.016	0.012	0.01	0.01

Note:
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YF-Frame - Miniature Circuit Breakers

Time Delay Curve



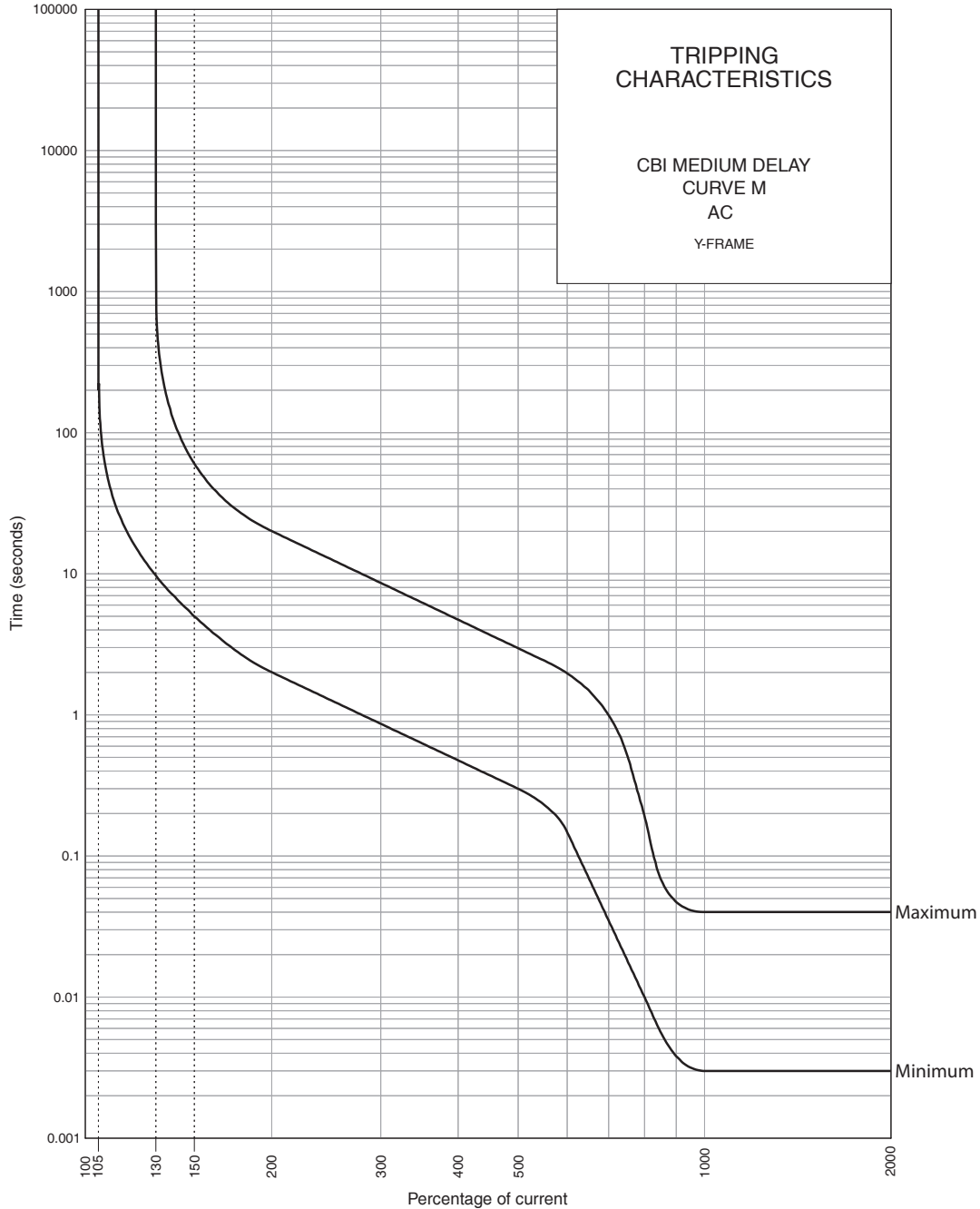
3990A954 REV. A

PERCENTAGE OF RATED CURRENT	105%	130%	150%	200%	300%	400%	500%	600%	700%	800%	900%	1000%	1200%
MINIMUM TRIP TIME IN SECONDS	NO TRIP	0.58	0.44	0.2	0.1	0.03	0.01	0.003	0.002	0.002	0.002	0.002	0.002
MAXIMUM TRIP TIME IN SECONDS	NO TRIP	3000	8.1	3.1	1.21	0.6	0.4	0.2	0.1	0.03	0.012	0.01	0.01

Note:
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YF-Frame - Miniature Circuit Breakers

Time Delay Curve

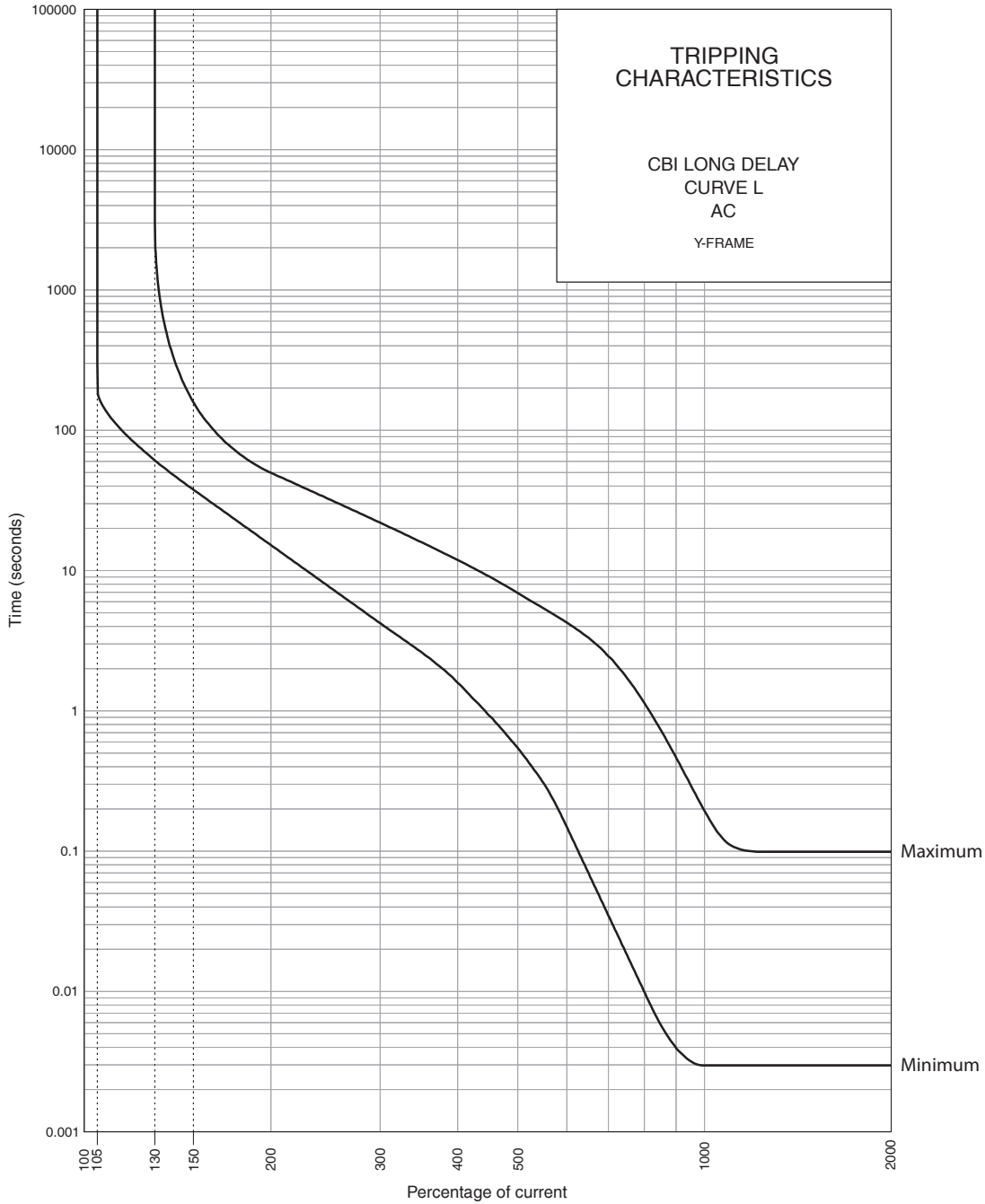


PERCENTAGE OF RATED CURRENT	105%	130%	150%	200%	300%	400%	500%	600%	700%	800%	900%	1000%	1200%
MINIMUM TRIP TIME IN SECONDS	NO TRIP	9.7	4.99	2.0	0.9	0.48	0.3	0.15	0.03	0.01	0.004	0.003	0.003
MAXIMUM TRIP TIME IN SECONDS	NO TRIP	3000	60.0	20.0	8.62	4.7	3.0	1.97	0.99	0.19	0.05	0.04	0.04

Note:
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YF-Frame - Miniature Circuit Breakers

Time Delay Curve



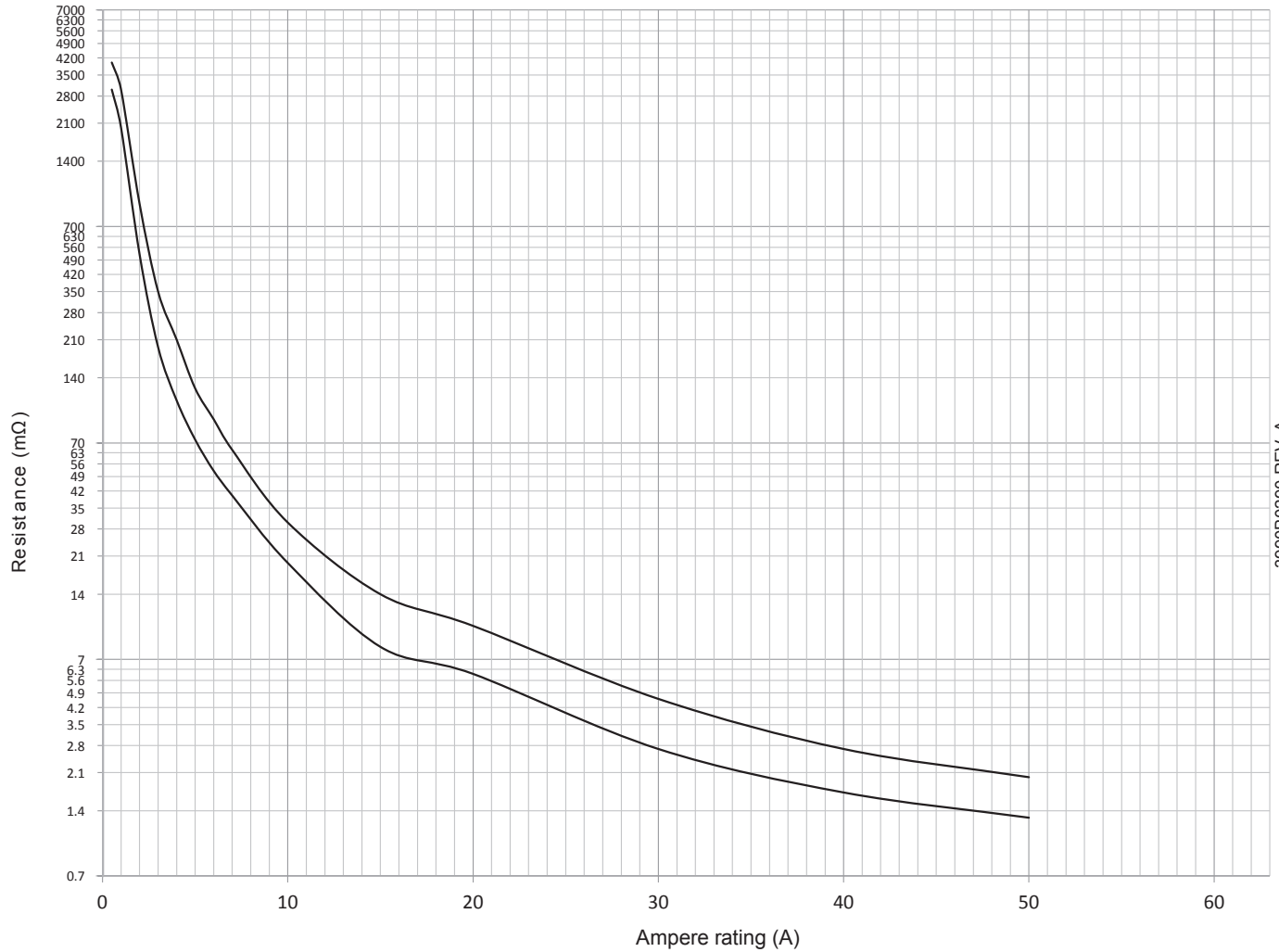
3990A953 REV. A

PERCENTAGE OF RATED CURRENT	105%	130%	150%	200%	300%	400%	500%	600%	700%	800%	900%	1000%	1200%
MINIMUM TRIP TIME IN SECONDS	NO TRIP	60.9	37.7	15.2	4.2	1.6	0.54	0.15	0.03	0.01	0.004	0.003	0.003
MAXIMUM TRIP TIME IN SECONDS	NO TRIP	3000	158.3	49.8	21.98	11.9	6.9	4.3	2.5	1.1	0.5	0.2	0.1

Note:
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YF-Frame - Miniature Circuit Breakers

Resistance Curve



3990B0290 REV. A

Amp RATING	0.5	1	2	3	4	5	6	7	10	15	20	30	40	50
MINIMUM (mΩ)	3000	2000	520	190	110	72	52	40	19.5	8	6	2.7	1.7	1.3
MAXIMUM (mΩ)	4000	3000	890	350	220	100	95	80	30	14	10	4.6	2.7	2.0

YF-Frame - Miniature Circuit Breakers

DIN mounting 45 mm front escutcheon			DIN mounting 57 mm front escutcheon	
AMP	BOM No.	Long Code	BOM No.	Long Code
One pole - 13 mm total width				
0.5 A	YFD1M0A5	YFD-1(13)-M-0.5A	YFM1M0A5	YFM-1(13)-M-0.5A
1 A	YFD1M001	YFD-1(13)-M-1A	YFM1M001	YFM-1(13)-M-1A
2 A	YFD1M002	YFD-1(13)-M-2A	YFM1M002	YFM-1(13)-M-2A
3 A	YFD1M003	YFD-1(13)-M-3A	YFM1M003	YFM-1(13)-M-3A
5 A	YFD1M005	YFD-1(13)-M-5A	YFM1M005	YFM-1(13)-M-5A
6 A	YFD1M006	YFD-1(13)-M-6A	YFM1M006	YFM-1(13)-M-6A
10 A	YFD1M010	YFD-1(13)-M-10A	YFM1M010	YFM-1(13)-M-10A
15 A	YFD1M015	YFD-1(13)-M-15A	YFM1M015	YFM-1(13)-M-15A
16 A	YFD1M016	YFD-1(13)-M-16A	YFM1M016	YFM-1(13)-M-16A
20 A	YFD1M020	YFD-1(13)-M-20A	YFM1M020	YFM-1(13)-M-20A
25 A	YFD1M025	YFD-1(13)-M-25A	YFM1M025	YFM-1(13)-M-25A
30 A	YFD1M030	YFD-1(13)-M-30A	YFM1M030	YFM-1(13)-M-30A
32 A	YFD1M032	YFD-1(13)-M-32A	YFM1M032	YFM-1(13)-M-32A
Two pole - (1P + N) - 26 mm total width				
0.5 A	YFD2M0A5N	YFD-2(13)-M-0.5A-N	YFM2M0A5N	YFM-2(13)-M-0.5A-N
1 A	YFD2M001N	YFD-2(13)-M-1A-N	YFM2M001N	YFM-2(13)-M-1A-N
2 A	YFD2M002N	YFD-2(13)-M-2A-N	YFM2M002N	YFM-2(13)-M-2A-N
3 A	YFD2M003N	YFD-2(13)-M-3A-N	YFM2M003N	YFM-2(13)-M-3A-N
5 A	YFD2M005N	YFD-2(13)-M-5A-N	YFM2M005N	YFM-2(13)-M-5A-N
6 A	YFD2M006N	YFD-2(13)-M-6A-N	YFM2M006N	YFM-2(13)-M-6A-N
10 A	YFD2M010N	YFD-2(13)-M-10A-N	YFM2M010N	YFM-2(13)-M-10A-N
15 A	YFD2M015N	YFD-2(13)-M-15A-N	YFM2M015N	YFM-2(13)-M-15A-N
16 A	YFD2M016N	YFD-2(13)-M-16A-N	YFM2M016N	YFM-2(13)-M-16A-N
20 A	YFD2M020N	YFD-2(13)-M-20A-N	YFM2M020N	YFM-2(13)-M-20A-N
25 A	YFD2M025N	YFD-2(13)-M-25A-N	YFM2M025N	YFM-2(13)-M-25A-N
30 A	YFD2M030N	YFD-2(13)-M-30A-N	YFM2M030N	YFM-2(13)-M-30A-N
32 A	YFD2M032N	YFD-2(13)-M-32A-N	YFM2M032N	YFM-2(13)-M-32A-N

Note:
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YF-Frame - Miniature Circuit Breakers

DIN mounting 45 mm front escutcheon			DIN mounting 57 mm front escutcheon	
AMP	BOM No.	Long Code	BOM No.	Long Code
Two pole - 26 mm total width				
0.5 A	YFD2M0A5	YFD-2(13)-M-0.5A	YFM2M0A5	YFM-2(13)-M-0.5A
1 A	YFD2M001	YFD-2(13)-M-1A	YFM2M001	YFM-2(13)-M-1A
2 A	YFD2M002	YFD-2(13)-M-2A	YFM2M002	YFM-2(13)-M-2A
3 A	YFD2M003	YFD-2(13)-M-3A	YFM2M003	YFM-2(13)-M-3A
5 A	YFD2M005	YFD-2(13)-M-5A	YFM2M005	YFM-2(13)-M-5A
6 A	YFD2M006	YFD-2(13)-M-6A	YFM2M006	YFM-2(13)-M-6A
10 A	YFD2M010	YFD-2(13)-M-10A	YFM2M010	YFM-2(13)-M-10A
15 A	YFD2M015	YFD-2(13)-M-15A	YFM2M015	YFM-2(13)-M-15A
16 A	YFD2M016	YFD-2(13)-M-16A	YFM2M016	YFM-2(13)-M-16A
20 A	YFD2M020	YFD-2(13)-M-20A	YFM2M020	YFM-2(13)-M-20A
25 A	YFD2M025	YFD-2(13)-M-25A	YFM2M025	YFM-2(13)-M-25A
30 A	YFD2M030	YFD-2(13)-M-30A	YFM2M030	YFM-2(13)-M-30A
32 A	YFD2M032	YFD-2(13)-M-32A	YFM2M032	YFM-2(13)-M-32A
Three pole -39 mm total width				
0.5 A	YFD3M0A5	YFD-3(13)-M-0.5A	YFM3M0A5	YFM-3(13)-M-0.5A
1 A	YFD3M001	YFD-3(13)-M-1A	YFM3M001	YFM-3(13)-M-1A
2 A	YFD3M002	YFD-3(13)-M-2A	YFM3M002	YFM-3(13)-M-2A
3 A	YFD3M003	YFD-3(13)-M-3A	YFM3M003	YFM-3(13)-M-3A
5 A	YFD3M005	YFD-3(13)-M-5A	YFM3M005	YFM-3(13)-M-5A
6 A	YFD3M006	YFD-3(13)-M-6A	YFM3M006	YFM-3(13)-M-6A
10 A	YFD3M010	YFD-3(13)-M-10A	YFM3M010	YFM-3(13)-M-10A
15 A	YFD3M015	YFD-3(13)-M-15A	YFM3M015	YFM-3(13)-M-15A
16 A	YFD3M016	YFD-3(13)-M-16A	YFM3M016	YFM-3(13)-M-16A
20 A	YFD3M020	YFD-3(13)-M-20A	YFM3M020	YFM-3(13)-M-20A
25 A	YFD3M025	YFD-3(13)-M-25A	YFM3M025	YFM-3(13)-M-25A
30 A	YFD3M030	YFD-3(13)-M-30A	YFM3M030	YFM-3(13)-M-30A
32 A	YFD3M032	YFD-3(13)-M-32A	YFM3M032	YFM-3(13)-M-32A

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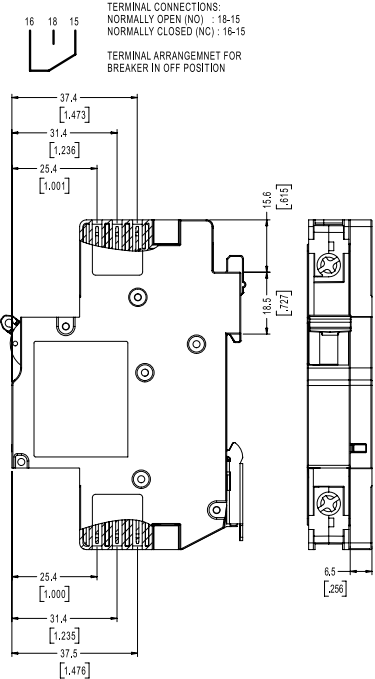
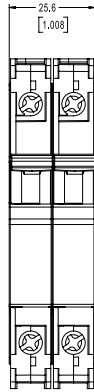
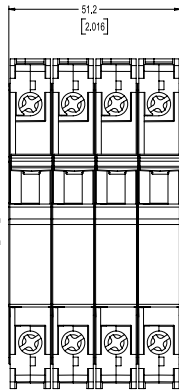
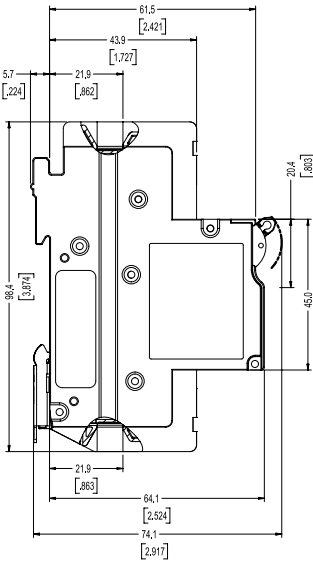
YF-Frame - Miniature Circuit Breakers

DIN mounting 45 mm front escutcheon			DIN mounting 57 mm front escutcheon	
AMP	BOM No.	Long Code	BOM No.	Long Code
Four pole - (3P + N) - 52 mm total width				
0.5 A	YFD4M0A5N	YFD-4(13)-M-0.5A-N	YFM4M0A5N	YFM-4(13)-M-0.5A-N
1 A	YFD4M001N	YFD-4(13)-M-1A-N	YFM4M001N	YFM-4(13)-M-1A-N
2 A	YFD4M002N	YFD-4(13)-M-2A-N	YFM4M002N	YFM-4(13)-M-2A-N
3 A	YFD4M003N	YFD-4(13)-M-3A-N	YFM4M003N	YFM-4(13)-M-3A-N
5 A	YFD4M005N	YFD-4(13)-M-5A-N	YFM4M005N	YFM-4(13)-M-5A-N
6 A	YFD4M006N	YFD-4(13)-M-6A-N	YFM4M006N	YFM-4(13)-M-6A-N
10 A	YFD4M010N	YFD-4(13)-M-10A-N	YFM4M010N	YFM-4(13)-M-10A-N
15 A	YFD4M015N	YFD-4(13)-M-15A-N	YFM4M015N	YFM-4(13)-M-15A-N
16 A	YFD4M016N	YFD-4(13)-M-16A-N	YFM4M016N	YFM-4(13)-M-16A-N
20 A	YFD4M020N	YFD-4(13)-M-20A-N	YFM4M020N	YFM-4(13)-M-20A-N
25 A	YFD4M025N	YFD-4(13)-M-25A-N	YFM4M025N	YFM-4(13)-M-25A-N
30 A	YFD4M030N	YFD-4(13)-M-30A-N	YFM4M030N	YFM-4(13)-M-30A-N
32 A	YFD4M032N	YFD-4(13)-M-32A-N	YFM4M032N	YFM-4(13)-M-32A-N

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YF-Frame - Miniature Circuit Breakers

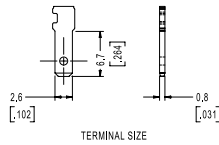
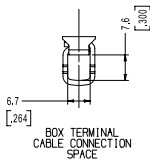
Outline Dimensions: DIN Mount 45 mm (YFD) Front Escutcheon (Grey)



TERMINAL CONNECTIONS:
 NORMALLY OPEN (NO) : 16-15
 NORMALLY CLOSED (NC) : 16-15
 TERMINAL ARRANGEMENT FOR
 BREAKER IN OFF POSITION

TERMINAL CONNECTIONS:
 NORMALLY OPEN (NO) : 14-11
 NORMALLY CLOSED (NC) : 12-11
 TERMINAL ARRANGEMENT FOR
 BREAKER IN OFF POSITION

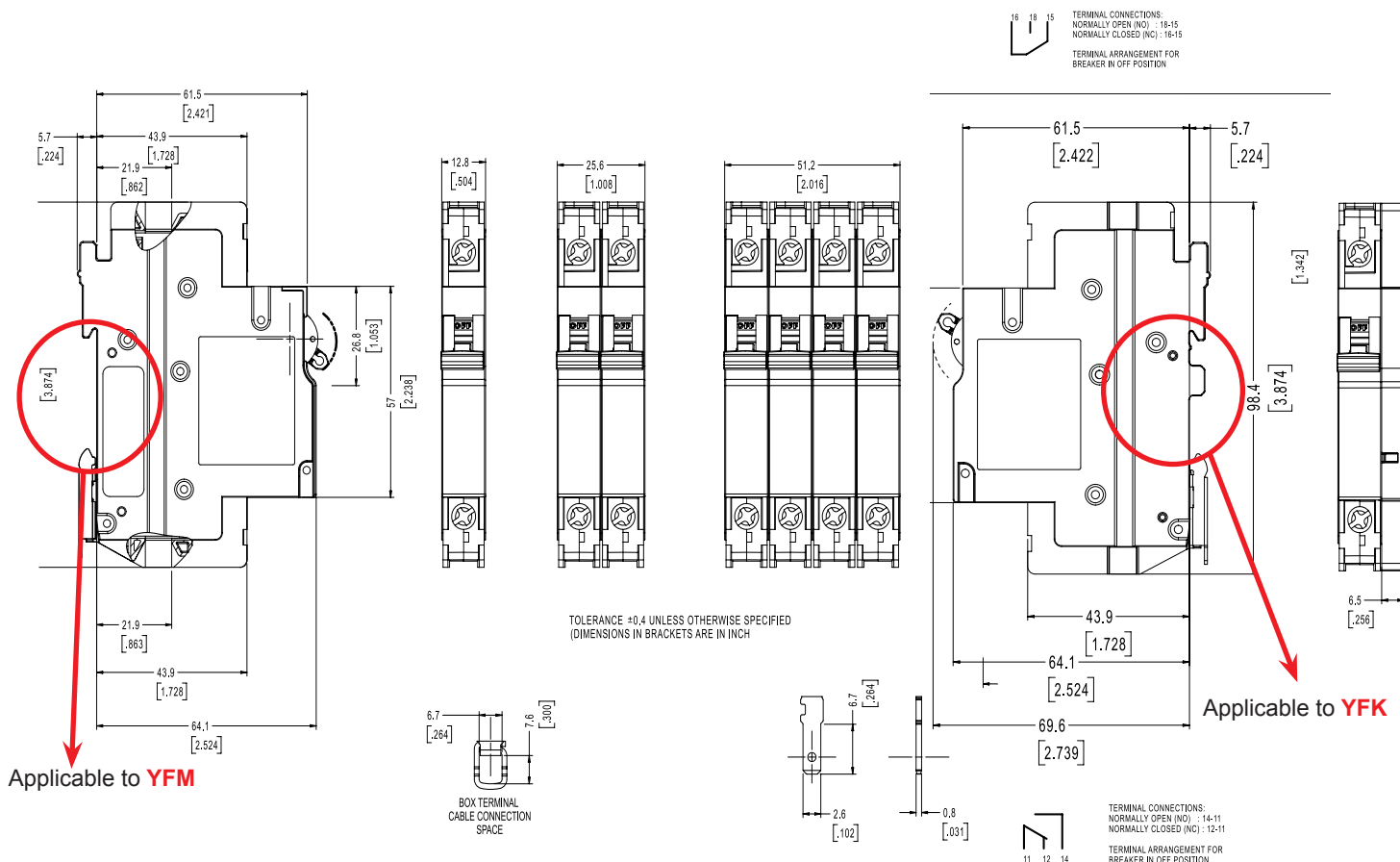
TOLERANCE ± 0,4 UNLESS OTHERWISE SPECIFIED
 (DIMENSIONS IN BRACKETS ARE IN INCH)



Note:
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YF-Frame - Miniature Circuit Breakers

**Outline Dimensions: Dual Mount (DIN and Mini Rail) 57 mm (YFK) Front Escutcheon (Black)
DIN Mount 57 mm (YFM) Front Escutcheon (Black)**



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AUSTRALIA
CBI-electric: Australia
27 Wedgewood Rd, Hallam
Victoria 3803 Australia
Tel: +61 3 8752 9300
Fax: +61 3 9796 5407
Email: sales@cbi-electric.com.au
Website: www.cbi-electric.com.au

INDIA
CBI-electric: Asia
27/A, Nitesh Rio, Adjacent to Vakil
Garden, Thalaghattapura, Kanakapura
Road, Bangalore, 560109, India
Tel: +91-9880553153
Email: salesasia@cbi-electric.com
Website: www.cbibreakers.com
Website: www.cbi-lowvoltage.com

SOUTH AFRICA
CBI-electric: low voltage
Tripswitch Drive Elandsfontein
Gauteng South Africa
Tel: +27 11 928 2000
Fax: + 27 11 392 2354
Email: cbi@cbi-electric.com
internationalsales@cbi-electric.com
Website: www.cbi-lowvoltage.com

USA
CBI-electric: North America
600 Eagleview Blvd Suite 300
Exton PA 19341 USA
Tel: +1 610 524 9949
Fax: +1 610 524 9945
E-mail: info@cbibreakers.com
Website: www.cbibreakers.com