

Specifications

Table 41 - General Data

Attribute			140MT-C	140MT-D	140MT-F
Standards compliance		IEC	IEC/EN 60947-2, IEC/EN 60947-4-1		
		cULus	UL 60947-4-1, CSA C22.2, No. 60947-4-1		
Certifications		Regional	cULus Listed (File No. E54612, NLRV(7); E205542, NKJH(7); E518407		
			CCC, EAC, CE, IEC, CB Scheme		CCC, EAC, CE
Rated Insulation Voltage U_i	IEC	[V]	690		
	UL/CSA	[V]	600		
Rated Impulse Withstand Voltage U_{imp}	Pollution degree		3		
	Main circuits U_{imp} /Overvoltage Category		6 kV/III, 8 kV (Disconnect)		
	Auxiliary circuits U_{imp} /Overvoltage Category		6 kV/III		
Rated Frequency		[Hz]	45...65		
Utilization Category	IEC 60947-2 (Circuit breaker)		A		
	IEC 60947-4-1 (Motor starter)		AC-3		AC-3e
Life Span	Mechanical	[operations]	100,000		30,000
	Electrical (I_e max.)	[operations]	100,000		30,000
Switching Frequency		[operations/hour]	max. 25		—
Ambient Temperature	Storage	[°C (°F)]	-40...+85 (-40...+185)		
	Operation	[°C (°F)]	-25...+70 (-13...+158)		
Climatic resistance	Operating Humidity/Moisture heat (60068-2-3)		5...95% Non-condensing		
Site Altitude		[m (ft)]	to 2000 (6561)		
Protection Class			IP2X from all directions		
Resistance to Shock, Transport (60068-2-27)		ON	15 G/11 ms		
		OFF	30 G/11 ms		
Resistance to Vibration, Operation (60068-2-6)			5 G		
Rated Thermal Current I_{th}	up to 40 °C (104 °F) ambient temperature	[A]	0.1...32	0.63...40	9...45
	up to 60 °C (140 °F) ambient temperature	[A]	0.1...32	0.63...40	9...45
Rated Supply Current I_e		[A]	0.1...32	0.63...40	9...45
Dependence on Temperature	40 °C (104 °F)	[A]	no reduction		
	50 °C (122 °F)	[A]	no reduction		
	60 °C (140 °F)	[A]	no reduction		
	70 °C (158 °F)	[A]	15% current reduction of the upper rated current I_e		
Overload Protection Characteristics			IEC 60947-4-1 Motor protection (except Cat. Nos. 140MT-D9N, 140MT-F9N)		
Ambient Temperature Compensation		[°C (°F)]	-25...+60 (-13...+140)		
Phase-loss Protection			Differential release		
Trip class			10 (except Cat. No. 140MT-D9N and 140MT-F9N), fixed setting		
Magnetic Release			fixed setting		
Release current (±20%)	for E, N Version	[A]	14 x I_e max. ⁽¹⁾		15 x I_e max
	for E, N Version C36, C40	[A]	12 x I_e max. ⁽¹⁾		—
	for T Version	[A]	18...22 x I_e max. ⁽²⁾		19...22 x I_e max. ⁽²⁾
Total Power loss P_v	Circuit Breaker at rated load/operating temp.	[W]	4...11	4...14	8.5 (at 12 A)...12 (at 45 A)
Main Disconnect Switch Application			Yes, with accessories		
Application Conditions	140MT-D...C36, -C40: Suitable for continuous operation at 90% current rating at 480V only if used in a minimum enclosure size of 250 x 175 x 150 mm (10 x 7 x 6 in).				
	For utilization outside North America, assemblies (of products) shall comply to the IEC 61439-1 requirements				
	140MT manual motor starters are intended for use in closed areas without hazardous operating conditions such as dust or explosive or corrosive gases. Enclosures of appropriate manner need to be in place to protect devices in such environments. See Table 42 .				

(1) I_e max. = maximum values of setting ranges fixed magnetic setting for 140MT-D9V; see ratings.(2) I_e max. = maximum values of setting ranges; see ratings.

Table 42 - Minimum Enclosure Size

Frame size	Rated Current [A]	Description		Application Type			
				480V Group Installation and At-motor Disconnect	600V Group Installation and At-motor Disconnect	480Y/277V Self-protected (Type E) Combination Motor Controller	600Y/347V Self-protected (Type E) Combination Motor Controller
140MT-C, -D	≤ 6.3	without accessories	[mm]	166 x 68 x 125	166 x 68 x 125	166 x 68 x 125	166 x 68 x 125
			[in]	6.5 x 2.7 x 5	6.5 x 2.7 x 5	6.5 x 2.7 x 5	6.5 x 2.7 x 5
		with accessories	[mm]	166 x 108 x 125	166 x 108 x 125	166 x 108 x 125	166 x 108 x 125
			[in]	6.5 x 4.25 x 5	6.5 x 4.25 x 5	6.5 x 4.25 x 5	6.5 x 4.25 x 5
	10...16	without accessories	[mm]	166 x 68 x 125	166 x 68 x 125	200 x 68 x 125	250 x 68 x 125
			[in]	6.5 x 2.7 x 5	6.5 x 2.7 x 5	7.9 x 2.7 x 5	10 x 2.7 x 5
		with accessories	[mm]	166 x 108 x 125	166 x 108 x 125	200 x 108 x 125	250 x 108 x 125
			[in]	6.5 x 4.25 x 5	6.5 x 4.25 x 5	7.9 x 4.25 x 5	10 x 4.25 x 5
	20...32	without accessories	[mm]	166 x 68 x 125	250 x 68 x 125	200 x 68 x 125	—
			[in]	6.5 x 2.7 x 5	10 x 2.7 x 5	7.9 x 2.7 x 5	
		with accessories	[mm]	166 x 108 x 125	250 x 108 x 125	200 x 108 x 125	
			[in]	6.5 x 4.25 x 5	10 x 4.25 x 5	7.9 x 4.25 x 5	
	36...40	with or without accessories	[mm]	250 x 175 x 150	250 x 175 x 150	250 x 175 x 150	
			[in]	10 x 7 x 6	10 x 7 x 6	10 x 7 x 6	
140MT-F	9...45	with or without accessories	[mm]	272 x 162 x 290	272 x 162 x 290	272 x 162 x 290	272 x 162 x 290
			[in]	10.7 x 6.4 x 11.4	10.7 x 6.4 x 11.4	10.7 x 6.4 x 11.4	10.7 x 6.4 x 11.4

Table 43 - MPCB Connecting Characteristics

Connection			No. of Conductors	140MT-C, 140MT-D ≤ 16 A	140MT-C, 140MT-D > 16 A	140MT-F
Type of terminals						
				Screw Clamp up to 16 A, M4	Screw Clamp greater than 16 A, M4	—
Connection Screw				Pozidriv No. 2/Blade No. 3	Pozidriv No. 2/Blade No. 3	Pozidriv No. 2/Blade No. 3
Wiring	Solid or stranded 	1	1...6 mm ²	1.5...10 mm ²	1...50 mm ²	
		2	1...2.5 mm ² 2.5...6 mm ²	1.5...4 mm ² 4...10 mm ²	1...35 mm ²	
	Flexible with ferrule (end sleeve) 	1	1...6 mm ²	1.5...10 mm ²	1...35 mm ²	
		2	1...2.5 mm ² 2.5...4 mm ²	1.5...4 mm ² 4...10 mm ²	1...35 mm ²	
	Finely stranded 	1	1.5...6 mm ²	2.5...10 mm ²	1...35 mm ²	
		2	1.5...4 mm ² 2.5...6 mm ²	2.5...6 mm ² 4...10 mm ²	1...35 mm ²	
	Cross section per UL/CSA solid, stranded 	1	No. 14...10 AWG	No. 14...8 AWG	No. 14...1 AWG	
		2	No. 14...10 AWG	No. 14...10 AWG No. 12...8 AWG	No. 14...2 AWG	
Stripping length			10 mm (0.39 in.)	10 mm (0.39 in.)	15 mm (0.59 in.)	
Tightening torques		[N•m]/[lb•in]	2...2.5/18...22	2...2.5/18...22	3...3.5/27...30	

Combination Ratings

Bulletin 140MT Devices with Bulletin 100-K Miniature IEC Contactors

Table 44 - UL 60947 Application Ratings, MPSDs and MCPs with Bulletin 100-K Miniature IEC Contactors

Cat. No.	UL 60947-4-1 Manual Motor Controller						UL 60947-4-1 Type F Type 1		
	Max. Fuse or Circuit Breaker per NEC [A]	Minimum Contactor Size ⁽¹⁾	Group Motor Installation		Motor Disconnect		Combination Motor Controller		
			Max Short-circuit Current [kA]		Max Short-circuit Current [kA]		Minimum Contactor Size ⁽¹⁾	Max Short-circuit Current [kA]	
			480V	600V	480V	600V		480Y/277V ⁽²⁾	600Y/347V ⁽²⁾
C-Frame, Adjustable Thermal/Fixed Magnetic (14 x I _n)									
140MT-C3E-A16	450	100-K05	65	50	65	50	100-K05	65	50
140MT-C3E-A25	450	100-K05	65	50	65	50	100-K05	65	50
140MT-C3E-A40	450	100-K05	65	50	65	50	100-K05	65	50
140MT-C3E-A63	450	100-K05	65	50	65	50	100-K05	65	50
140MT-C3E-B10	450	100-K05	65	50	65	50	100-K05	65	50
140MT-C3E-B16	450	100-K05	65	50	65	50	100-K05	65	50
140MT-C3E-B25	450	100-K05	65	30	65	30	100-K05	65	30
140MT-C3E-B40	450	100-K05	65	30	65	30	100-K05	65	30
140MT-C3E-B63	450	100-K05	65	30	65	30	100-K05	65	—
140MT-C3E-C10	450	100-K09	65	30	65	30	100-K09	65	—
140MT-C3E-C16	450	100-K12	30	30	30	30	100-K12	30	—
D-Frame, Adjustable Thermal/Fixed Magnetic (14 x I _n)									
140MT-D9E-A63	450	100-K05	65	50	65	50	100-K05	65	50
140MT-D9E-B10	450	100-K05	65	50	65	50	100-K05	65	50
140MT-D9E-B16	450	100-K05	65	50	65	50	100-K05	65	50
140MT-D9E-B25	450	100-K05	65	30	65	30	100-K05	65	30
140MT-D9E-B40	450	100-K05	65	30	65	30	100-K05	65	30
140MT-D9E-B63	450	100-K05	65	30	65	30	100-K05	65	30
140MT-D9E-C10	450	100-K09	65	30	65	30	100-K09	65	30
140MT-D9E-C16	450	100-K12	65	30	65	30	100-K12	65	30

(1) Similar for other contactor configurations (100-K, 104-K).

(2) For full voltage (delta) ratings above 277V or 347V, follow the NEC or CEC rules for group motor applications.

Table 45 - IEC 60947-4-1, Type 1 Coordination Ratings, MPSDs with Bulletin 100-K IEC Contactors

Cat. No.	415V	
	Max Short-circuit Current [kA]	Min Contactor Size ⁽¹⁾
C-Frame, Adjustable Thermal/Fixed Magnetic (14 x I_n)		
140MT-C3E-A16	65	100-K05
140MT-C3E-A25	65	100-K05
140MT-C3E-A40	65	100-K05
140MT-C3E-A63	65	100-K05
140MT-C3E-B10	65	100-K05
140MT-C3E-B16	65	100-K05
140MT-C3E-B25	65	100-K05
140MT-C3E-B40	65	100-K05
140MT-C3E-B63	65	100-K05
140MT-C3E-C10	65	100-K09
140MT-C3E-C16	30	100-K12
D-Frame, Adjustable Thermal/Fixed Magnetic (14 x I_n)		
140MT-D9E-A63	65	100-K05
140MT-D9E-B10	65	100-K05
140MT-D9E-B16	65	100-K05
140MT-D9E-B25	65	100-K05
140MT-D9E-B40	65	100-K05
140MT-D9E-B63	65	100-K05
140MT-D9E-C10	65	100-K09
140MT-D9E-C16	65	100-K12

(1) Similar for other contactor configurations (100-K, 104-K).

Bulletin 140MT Devices with Bulletin 100-C IEC Contactors

Table 46 - UL 60947 Type 1 Application Ratings, MPSDs with Bulletin 100-C IEC Contactors

Cat. No.	UL 60947-4-1 Manual Motor Controller						UL 60947-4-1 Type F, Type 1		
	Max. Fuse or Circuit Breaker per NEC [A]	Minimum Contactor Size ⁽¹⁾	Group Motor Installation		Motor Disconnect		Combination Motor Controller		
			Max Short-circuit Current [kA]		Max Short-circuit Current [kA]		Minimum Contactor Size ⁽¹⁾	Max Short-circuit Current [kA]	
			480V	600V	480V	600V		480Y/277V ⁽²⁾	600Y/347V ⁽²⁾
C-Frame, Adjustable Thermal/Fixed Magnetic (14 x I _N)									
140MT-C3E-A16	450	100-C09	65	50	65	50	100-C09	65	50
140MT-C3E-A25	450	100-C09	65	50	65	50	100-C09	65	50
140MT-C3E-A40	450	100-C09	65	50	65	50	100-C09	65	50
140MT-C3E-A63	450	100-C09	65	50	65	50	100-C09	65	50
140MT-C3E-B10	450	100-C09	65	50	65	50	100-C09	65	50
140MT-C3E-B16	450	100-C09	65	50	65	50	100-C09	65	50
140MT-C3E-B25	450	100-C09	65	30	65	30	100-C09	65	30
140MT-C3E-B40	450	100-C09	65	30	65	30	100-C09	65	30
140MT-C3E-B63	450	100-C09	65	30	65	30	100-C09	65	—
140MT-C3E-C10	450	100-C09	65	30	65	30	100-C09	65	—
140MT-C3E-C16	450	100-C12	30	30	30	30	100-C12	30	—
140MT-C3E-C20	450	100-C16	30	30	30	10	—	—	—
140MT-C3E-C25	450	100-C23	30	18	10	5	—	—	—
	450	100-C30	30	18	30	5	—	—	—
140MT-C3E-C29	450	100-C30	30	10	10	—	—	—	—
140MT-C3E-C32	450	100-C37	30	10	10	—	—	—	—
D-Frame, Adjustable Thermal/Fixed Magnetic (14 x I _N)									
140MT-D9E-A63	450	100-C09	65	50	65	50	100-C09	65	50
140MT-D9E-B10	450	100-C09	65	50	65	50	100-C09	65	50
140MT-D9E-B16	450	100-C09	65	50	65	50	100-C09	65	50
140MT-D9E-B25	450	100-C09	65	30	65	30	100-C09	65	30
140MT-D9E-B40	450	100-C09	65	30	65	30	100-C09	65	30
140MT-D9E-B63	450	100-C09	65	30	65	30	100-C09	65	30
140MT-D9E-C10	450	100-C09	65	30	65	30	100-C09	65	30
140MT-D9E-C16	450	100-C12	65	30	65	30	100-C12	65	30
140MT-D9E-C20	450	100-C23	65	30	65	30	100-C23	65	—
140MT-D9E-C25	450	100-C23	50	30	50	30	100-C23	50	—
140MT-D9E-C29	450	100-C30	50	30	50	30	100-C30	50	—
140MT-D9E-C32	450	100-C37	50	30	30	18	100-C37	30	—
140MT-D9E-C36	450	100-C37	30	30	30	18	100-C37	30	—
140MT-D9E-C40	450	100-C37	30	30	30	18	100-C37	30	—
F-Frame, Adjustable Thermal/Fixed Magnetic (15 x I _N)									
140MT-F9E-C12	600	100-C30	65	30	65	30	100-C30	65	30
140MT-F9E-C16	600	100-C30	65	30	65	30	100-C30	65	30
140MT-F9E-C20	600	100-C30	65	30	65	30	100-C30	65	30
140MT-F9E-C25	600	100-C30	65	30	65	30	100-C30	65	30
140MT-F9E-C32	600	100-C30	65	30	65	30	100-C30	65	30
140MT-F9E-C38	600	100-C37	65	30	65	30	100-C37	65	30
140MT-F9E-C45	600	100-C43	65	30	65	30	100-C43	65	30

(1) Similar for other contactor configurations (100-C, 104-C, 100S-C, 104S-C).

(2) For full-voltage (delta) ratings above 277V or 347V, follow the NEC or CEC rules for group motor applications.

Table 47 - UL 60947 Type 1 Application Ratings, MCPs with Bulletin 100-C IEC Contactors

Cat. No.	UL 60947-4-1 Manual Motor Controller						Overload Relay
	Max. Fuse or Circuit Breaker per NEC [A]	Minimum Contactor Size	Group Motor Installation		Motor Disconnect		
			Max Short-circuit Current [kA]		Max Short-circuit Current [kA]		
			480V	600V	480V	600V	
D-Frame, Motor Circuit Protectors, Fixed Magnetic (14 x I _n)							
140MT-D9N-A16	450	100-C09	65	50	65	50	—
140MT-D9N-A25	450	100-C09	65	50	65	50	—
140MT-D9N-A40	450	100-C09	65	50	65	50	—
140MT-D9N-A63	450	100-C09	65	50	65	50	—
140MT-D9N-B10	450	100-C09	65	50	65	50	—
140MT-D9N-B16	450	100-C09	65	50	65	50	—
140MT-D9N-B25	450	100-C09	65	30	65	30	—
140MT-D9N-B40	450	100-C09	65	30	65	30	—
140MT-D9N-B63	450	100-C09	65	30	65	30	—
140MT-D9N-C10	450	100-C09	65	30	65	30	—
140MT-D9N-C16	450	100-C12	65	30	65	30	—
140MT-D9N-C20	450	100-C23	65	30	65	30	—
140MT-D9N-C25	450	100-C23	50	30	50	30	—
140MT-D9N-C29	450	100-C30	50	30	50	30	—
140MT-D9N-C32	450	100-C37	50	30	30	18	—
140MT-D9N-C36	450	100-C37	30	30	30	18	—
140MT-D9N-C40	450	100-C37	30	30	30	18	—
F-Frame, Motor Circuit Protectors, Fixed Magnetic (15 x I _n)							
140MT-F9N-C25	600	100-C30	65	30	65	30	193-1..., 193-E...FD
140MT-F9N-C32	600	100-C30	65	30	65	30	
140MT-F9N-C38	600	100-C37	65	30	65	30	
140MT-F9N-C45	600	100-C43	65	30	65	30	

Table 48 - UL 60947-4-1 Short-Circuit Current Ratings, 140MT Combination Motor Controller as Type F, Type 2 Combination with 100-C Contactors

Cat. No.	Current Range [A]	Contactor Size ⁽¹⁾	UL 60947-4-1 Type F, Type 2 Combination Motor Controller			
			Max Short-circuit Current [kA]		Max Current Rating [A]	
			480Y/277V	600Y/347V	Fuse	Circuit Breaker
C-Frame, Adjustable Thermal/Fixed Magnetic (14 x I _N)						
140MT-C3E-A16	0.10...0.16	100-C09	65	50	450	450
140MT-C3E-A25	0.16...0.25	100-C09	65	50	450	450
140MT-C3E-A40	0.25...0.40	100-C09	65	50	450	450
140MT-C3E-A63	0.40...0.63	100-C09	65	50	450	450
140MT-C3E-B10	0.63...1.0	100-C09	65	50	450	450
140MT-C3E-B16	1.0...1.6	100-C09	65	50	450	450
140MT-C3E-B25	1.6...2.5	100-C23	65	30	450	450
140MT-C3E-B40	2.5...4.0	100-C30	65	30	450	450
140MT-C3E-B63	4.0...6.3	100-C30	65	—	450	450
140MT-C3E-C10	6.3...10	100-C30	65	—	450	450
140MT-C3E-C16	10...16	100-C30	30	—	450	450
D-Frame, Adjustable Thermal/Fixed Magnetic (14 x I _N)						
140MT-D9E-A63	0.40...0.63	100-C09	65	50	450	450
140MT-D9E-B10	0.63...1.0	100-C09	65	50	450	450
140MT-D9E-B16	1.0...1.6	100-C09	65	50	450	450
140MT-D9E-B25	1.6...2.5	100-C23	65	30	450	450
140MT-D9E-B40	2.5...4.0	100-C23	65	—	450	450
140MT-D9E-B40	2.5...4.0	100-C30	65	30	450	450
140MT-D9E-B63	4.0...6.3	100-C30	65	30	450	450
140MT-D9E-C10	6.3...10	100-C30	65	30	450	450
140MT-D9E-C16	10...16	100-C30	65	30	450	450
140MT-D9E-C20	14.5...20	100-C30	65	—	450	450
140MT-D9E-C25	18...25	100-C30	50	—	450	450
140MT-D9E-C29	23...29	100-C30	50	—	450	450
140MT-D9E-C32	26.5...32	100-C37	30	—	450	450
140MT-D9E-C36	30...36	100-C37	30	—	450	450
140MT-D9E-C40	34...40	100-C37	30	—	450	450
140MT-D9E-C40	34...40	100-C43	30	—	450	450
D-Frame, Adjustable Thermal/Fixed Magnetic (18...22 x I _N)						
140MT-D9T-A63	0.40...0.63	100-C09	65	50	450	450
140MT-D9T-B10	0.63...1.0	100-C09	65	50	450	450
140MT-D9T-B16	1.0...1.6	100-C23	65	30	450	450
140MT-D9T-B25	1.6...2.5	100-C23	65	—	450	450
140MT-D9T-B25	1.6...2.5	100-C30	65	30	450	450
140MT-D9T-B40	2.5...4.0	100-C30	65	30	450	450
140MT-D9T-B63	4.0...6.3	100-C30	65	30	450	450
140MT-D9T-C10	6.3...10	100-C30	65	30	450	450
140MT-D9T-C16	10...16	100-C30	65	-	450	450
140MT-D9T-C20	14.5...20	100-C30	50	-	450	450
140MT-D9T-C25	18...25	100-C30	50	-	450	450

(1) Similar for other contactor configurations (100-C, 104-C, 100S-C, 104S-C).

Table 49 - IEC 60947-4-1, Type 2 Coordination Ratings, MPSDs with Bulletin 100-C IEC Contactors

Cat. No.			IEC 60947-4-1 Type 2 Coordination						Overload Relay
Standard Motor Protection	High Inrush Motor Protection	Motor Circuit Protection	400V		480V		600V		
			Max Short-circuit Current [kA]	Min Contactor Size ⁽¹⁾	Max Short-circuit Current [kA]	Min Contactor Size ⁽¹⁾	Max Short-circuit Current [kA]	Min Contactor Size ⁽¹⁾	
C-Frame, Adjustable Thermal/Fixed Magnetic (14 x I _n)									
140MT-C3E-A16	—	—	100	100-C09	—	—	—	—	—
140MT-C3E-A25	—	—	100	100-C09	—	—	—	—	—
140MT-C3E-A40	—	—	100	100-C09	—	—	—	—	—
140MT-C3E-A63	—	—	100	100-C09	—	—	—	—	—
140MT-C3E-B10	—	—	100	100-C09	—	—	—	—	—
140MT-C3E-B16	—	—	100	100-C09	—	—	—	—	—
140MT-C3E-B25	—	—	65	100-C23	—	—	—	—	—
140MT-C3E-B40	—	—	65	100-C23	—	—	—	—	—
140MT-C3E-B63	—	—	65	100-C23	—	—	—	—	—
140MT-C3E-C10	—	—	65	100-C23	—	—	—	—	—
140MT-C3E-C16	—	—	50	100-C30	—	—	—	—	—
140MT-C3E-C20	—	—	50	100-C30	—	—	—	—	—
140MT-C3E-C25	—	—	15	100-C30	—	—	—	—	—
140MT-C3E-C29	—	—	15	100-C30	—	—	—	—	—
140MT-C3E-C32	—	—	15	100-C30	—	—	—	—	—
D-Frame, Adjustable Thermal/Fixed Magnetic (14 x I _n)									
140MT-D9E-A63	—	—	100	100-C09	—	—	—	—	—
140MT-D9E-B10	140MT-D9T-A63	140MT-D9N-B10	100	100-C09	—	—	—	—	—
140MT-D9E-B16	140MT-D9T-B10	140MT-D9N-B16	100	100-C09	—	—	—	—	—
140MT-D9E-B25	140MT-D9T-B16	140MT-D9N-B25	100	100-C09	—	—	—	—	—
140MT-D9E-B40	140MT-D9T-B25	140MT-D9N-B40	65	100-C09	—	—	—	—	—
140MT-D9E-B63	140MT-D9T-B40	140MT-D9N-B63	65	100-C09	—	—	—	—	—
140MT-D9E-C10	140MT-D9T-B63	140MT-D9N-C10	65	100-C09	—	—	—	—	—
140MT-D9E-C16	140MT-D9T-C10	140MT-D9N-C16	65	100-C23	—	—	—	—	—
140MT-D9E-C20	140MT-D9T-C16	140MT-D9N-C20	65	100-C23	—	—	—	—	—
140MT-D9E-C25	140MT-D9T-C20	140MT-D9N-C25	65	100-C23	—	—	—	—	—
140MT-D9E-C29	140MT-D9T-C25	140MT-D9N-C29	65	100-C30	—	—	—	—	—
140MT-D9E-C32	140MT-D9T-C29	140MT-D9N-C32	65	100-C30/C37	—	—	—	—	—
140MT-D9E-C36	140MT-D9T-C32	—	65	100-C30/C37	—	—	—	—	—
140MT-D9E-C40	140MT-D9T-C36	140MT-D9N-C40	65	100-C30/C37	—	—	—	—	—
F-Frame, Adjustable Thermal/Fixed Magnetic (15 x I _n)									
140MT-F9E-C12	—	—	—	—	—	—	—	—	—
140MT-F9E-C16	—	—	65	100-C30	50	100-C30	10	TBD	—
140MT-F9E-C20	—	—	65	100-C30	50	100-C30	10	TBD	—
140MT-F9E-C25	—	—	65	100-C30	50	100-C30	10	TBD	—
140MT-F9E-C32	—	—	65	100-C30	50	100-C30	10	TBD	—
140MT-F9E-C38	—	—	65	100-C30	50	100-C37	10	TBD	—
140MT-F9E-C45	—	—	65	100-C37	50	100-C43	10	TBD	—
—	140MT-F9T-C25	—	65	100-C30	50	100-C30	10	TBD	—
—	140MT-F9T-C32	—	65	100-C30	50	100-C30	10	TBD	—
—	140MT-F9T-C38	—	65	100-C30	50	100-C37	10	TBD	—
—	140MT-F9T-C45	—	65	100-C37	50	100-C43	10	TBD	—
—	—	140MT-F9N-C25	65	TBD	50	TBD	10	TBD	193-1..., 193-E...FD
—	—	140MT-F9N-C32	65	TBD	50	TBD	10	TBD	
—	—	140MT-F9N-C38	65	TBD	50	TBD	10	TBD	
—	—	140MT-F9N-C45	65	TBD	50	TBD	10	TBD	

(1) Similar for other contactor configurations (100-C, 104-C, 100S-C, 104S-C).

Bulletin 140MT Devices with Bulletin 100-E IEC Contactors

Table 50 - UL 60947 Type 1 Application Ratings, MPSDs with Bulletin 100-E IEC Contactors

Cat. No.	UL 60947-4-1 Manual Motor Controller						UL 60947-4-1 Type F Type 1		
	Max. Fuse or Circuit Breaker per NEC [A]	Minimum Contactor Size ⁽¹⁾	Group Motor Installation		Motor Disconnect		Combination Motor Controller		
			Max Short-circuit Current [kA]		Max Short-circuit Current [kA]		Minimum Contactor Size ⁽¹⁾	Max Short-circuit Current [kA]	
			480V	600V	480V	600V		480V/277V ⁽²⁾	600V/347V ⁽²⁾
C-Frame, Adjustable Thermal/Fixed Magnetic (14 x I _N)									
140MT-C3E-A16	450	100-E09	65	50	65	50	100-E09	65	50
140MT-C3E-A25	450	100-E09	65	50	65	50	100-E09	65	50
140MT-C3E-A40	450	100-E09	65	50	65	50	100-E09	65	50
140MT-C3E-A63	450	100-E09	65	50	65	50	100-E09	65	50
140MT-C3E-B10	450	100-E09	65	50	65	50	100-E09	65	50
140MT-C3E-B16	450	100-E09	65	50	65	50	100-E09	65	50
140MT-C3E-B25	450	100-E09	65	30	65	30	100-E09	65	30
140MT-C3E-B40	450	100-E09	65	30	65	30	100-E09	65	30
140MT-C3E-B63	450	100-E09	65	30	65	30	100-E09	65	—
140MT-C3E-C10	450	100-E09	65	30	65	30	100-E09	65	—
140MT-C3E-C16	450	100-E12	30	30	30	30	100-E12	30	—
140MT-C3E-C20	450	100-E16	30	30	30	10	—	—	—
140MT-C3E-C25	450	100-E26	30	18	10	5	—	—	—
	450	100-E30	30	18	30	5	—	—	—
140MT-C3E-C29	450	100-E30	30	10	10	—	—	—	—
140MT-C3E-C32	450	100-E38	30	10	10	—	—	—	—
D-Frame, Adjustable Thermal/Fixed Magnetic (14 x I _N)									
140MT-D9E-A63	450	100-E09	65	50	65	50	100-E09	65	50
140MT-D9E-B10	450	100-E09	65	50	65	50	100-E09	65	50
140MT-D9E-B16	450	100-E09	65	50	65	50	100-E09	65	50
140MT-D9E-B25	450	100-E09	65	30	65	30	100-E09	65	30
140MT-D9E-B40	450	100-E09	65	30	65	30	100-E09	65	30
140MT-D9E-B63	450	100-E09	65	30	65	30	100-E09	65	30
140MT-D9E-C10	450	100-E09	65	30	65	30	100-E09	65	30
140MT-D9E-C16	450	100-E12	65	30	65	30	100-E12	65	30
140MT-D9E-C20	450	100-E26	65	30	65	30	100-E26	65	—
140MT-D9E-C25	450	100-E26	50	30	50	30	100-E26	50	—
140MT-D9E-C29	450	100-E30	50	30	50	30	100-E30	50	—
140MT-D9E-C32	450	100-E38	50	30	30	18	100-E38	30	—
140MT-D9E-C36	450	100-E38	30	30	30	18	100-E38	30	—
140MT-D9E-C40	450	100-E38	30	30	30	18	100-E38	30	—
140MT-D9E-C40	450	100-E40	30	30	30	18	100-E40	30	—

(1) Similar for other contactor configurations (100-E, 104-E, 100S-E, 104S-E).

(2) For full-voltage (delta) ratings above 277V or 347V, follow the NEC or CEC rules for group motor applications.

Table 51 - UL 60947-4-1 Short-Circuit Current Ratings, 140MT Combination Motor Controller as Type F, Type 2 Combination with 100-E Contactors

Cat. No.	Current Range [A]	Contactor Size ⁽¹⁾	UL 60947-4-1 Type F, Type 2 Combination Motor Controller			
			Max Short-circuit Current [kA]		Max Current Rating [A]	
			480Y/277V	600Y/347V	Fuse	Circuit Breaker
C-Frame, Adjustable Thermal/Fixed Magnetic (14 x I _N)						
140MT-C3E-A16	0.10...0.16	100-E09	65	50	450	450
140MT-C3E-A25	0.16...0.25	100-E09	65	50	450	450
140MT-C3E-A40	0.25...0.40	100-E09	65	50	450	450
140MT-C3E-A63	0.40...0.63	100-E09	65	50	450	450
140MT-C3E-B10	0.63...1.0	100-E09	65	50	450	450
140MT-C3E-B16	1.0...1.6	100-E09	65	50	450	450
140MT-C3E-B25	1.6...2.5	100-E26	65	30	450	450
140MT-C3E-B40	2.5...4.0	100-E26	65	30	450	450
140MT-C3E-B63	4.0...6.3	100-E26	65	—	450	450
140MT-C3E-C10	6.3...10	100-E26	65	—	450	450
140MT-C3E-C16	10...16	100-E30	30	—	450	450
D-Frame, Adjustable Thermal/Fixed Magnetic (14 x I _N)						
140MT-D9E-A63	0.40...0.63	100-E09	65	50	450	450
140MT-D9E-B10	0.63...1.0	100-E09	65	50	450	450
140MT-D9E-B16	1.0...1.6	100-E09	65	50	450	450
140MT-D9E-B25	1.6...2.5	100-E26	65	30	450	450
140MT-D9E-B40	2.5...4.0	100-E26	65	—	450	450
		100-E30	65	30	450	450
140MT-D9E-B63	4.0...6.3	100-E26	65	—	450	450
		100-E30	65	30	450	450
140MT-D9E-C10	6.3...10	100-E26	65	—	450	450
		100-E30	65	30	450	450
140MT-D9E-C16	10...16	100-E26	65	—	450	450
		100-E30	65	30	450	450
140MT-D9E-C20	14.5...20	100-E26	65	—	450	450
140MT-D9E-C25	18...25	100-E26	50	—	450	450
140MT-D9E-C29	23...29	100-E26	50	—	450	450
140MT-D9E-C32	26.5...32	100-E38	30	—	450	450
140MT-D9E-C36	30...36	100-E38	30	—	450	450
140MT-D9E-C40	34...40	100-E38	30	—	450	450
		100-E40	30	—	450	450
D-Frame, Adjustable Thermal/Fixed Magnetic (18...22 x I _N)						
140MT-D9T-A63	0.40...0.63	100-E09	65	50	450	450
140MT-D9T-B10	0.63...1.0	100-E09	65	50	450	450
140MT-D9T-B16	1.0...1.6	100-E26	65	30	450	450
140MT-D9T-B25	1.6...2.5	100-E26	65	—	450	450
		100-E30	65	30	450	450
140MT-D9T-B40	2.5...4.0	100-E26	65	—	450	450
		100-E30	65	30	450	450
140MT-D9T-B63	4.0...6.3	100-E26	65	—	450	450
		100-E30	65	30	450	450
140MT-D9T-C10	6.3...10	100-E26	65	—	450	450
		100-E30	65	30	450	450
140MT-D9T-C16	10...16	100-E26	65	—	450	450
140MT-D9T-C20	14.5...20	100-E26	50	—	450	450
140MT-D9T-C25	18...25	100-E26	50	—	450	450

(1) Similar for other contactor configurations (100-C, 104-C, 100S-C, 104S-C).

Table 52 - IEC 60947-4-1, Type 2 Coordination Ratings, MPSDs with Bulletin 100-E IEC Contactors

Cat. No.		IEC 60947-4-1 Type 2 Coordination	
Standard Motor Protection	High Inrush Motor Protection	415V	
		Max Short-circuit Current [kA]	Min Contactor Size ⁽¹⁾
C-Frame, Adjustable Thermal/Fixed Magnetic (14 x I _n)			
140MT-C3E-A16	—	100	100-E09
140MT-C3E-A25	—	100	100-E09
140MT-C3E-A40	—	100	100-E09
140MT-C3E-A63	—	100	100-E09
140MT-C3E-B10	—	100	100-E09
140MT-C3E-B16	—	100	100-E09
140MT-C3E-B25	—	65	100-E26
140MT-C3E-B40	—	65	100-E26
140MT-C3E-B63	—	65	100-E26
140MT-C3E-C10	—	65	100-E26
140MT-C3E-C16	—	50	100-E26
140MT-C3E-C20	—	50	100-E26
140MT-C3E-C25	—	15	100-E30
140MT-C3E-C29	—	15	100-E30
140MT-C3E-C32	—	15	100-E30
D-Frame, Adjustable Thermal/Fixed Magnetic (14 x I _n)			
140MT-D9E-A63	—	100	100-E09
140MT-D9E-B10	—	100	100-E09
140MT-D9E-B16	—	100	100-E09
140MT-D9E-B25	—	100	100-E09
140MT-D9E-B40	—	65	100-E26
140MT-D9E-B63	—	65	100-E26
140MT-D9E-C10	—	65	100-E26
140MT-D9E-C16	—	65	100-E26
140MT-D9E-C20	—	65	100-E26
140MT-D9E-C25	—	65	100-E26
140MT-D9E-C29	—	65	100-E26
140MT-D9E-C32	—	65	100-E30
140MT-D9E-C36	—	65	100-E30
140MT-D9E-C40	—	66	100-E30
140MT-D9E-C40	—	65	100-E40
D-Frame, Adjustable Thermal/Fixed Magnetic (18...22 x I _n)			
—	140MT-D9T-A63	100	100-E09
—	140MT-D9T-B10	100	100-E09
—	140MT-D9T-B16	100	100-E09
—	140MT-D9T-B25	65	100-E26
—	140MT-D9T-B40	65	100-E26
—	140MT-D9T-B63	65	100-E26
—	140MT-D9T-C10	65	100-E26
—	140MT-D9T-C16	65	100-E26
—	140MT-D9T-C20	65	100-E26
—	140MT-D9T-C25	65	100-E26

(1) Similar for other contactor configurations (100-E, 104-E, 100S-E, 104S-E).

Accessory Specifications

Table 53 - Auxiliary Contact Specifications—For 140MT-C... and 140MT-D... Devices

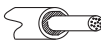
Attribute			Front-mounted Auxiliary Contacts Cat. Nos. 140MT-C-AFA, -AFAR/ -AFAR10M10	Right Side-mounted Auxiliary Contacts Cat. No. 140MT-C-ASA	
Rated Thermal Current I_{th}	at 40 °C (104 °F) ambient temperature		[A]	5	10
	at 60 °C (140 °F) ambient temperature		[A]	4	6
Back-up Fuses gG, gL			[A]	10	10
General Use current			[A]	5	10
Rated insulation voltage U_i	IEC		[V]	250	690
	UL/CSA		[V]	240	600
Contact rating code designation (UL/CSA)			AC	B300	A600
			DC	R300	Q600
Rated Supply Current I_e	AC-15	24V	[A]	4	6
		120V	[A]	3	5
		240V	[A]	1.5	3
		415V	[A]	—	2
		690V	[A]	—	1
	DC-13	24V	[A]	1.2	2
		125V	[A]	0.22	0.55
		250V	[A]	0.11	0.27
		400V	[A]	—	0.15
		500V	[A]	—	0.13
Type of Terminals					
Recommended screwdriver			Pozidriv No. 2/Blade No. 3	Pozidriv No. 2/Blade No. 3	
Flexible with insulated ferrule 	1 or 2 conductors		0.5...1.5 mm ² /No. 18...14 AWG	0.5...2.5 mm ² /No. 18...14 AWG	
Flexible 	1 or 2 conductors		0.5...1.5 mm ² /No. 18...14 AWG	0.75...2.5 mm ² /No. 18...14 AWG	
Stranded per UL/CSA 	1 or 2 conductors		0.75...1.5 mm ² /No. 18...14 AWG	0.75...2.5 mm ² /No. 18...14 AWG	
Solid 	1 or 2 conductors		0.5...1.5 mm ² /No. 18...14 AWG	0.5...2.5 mm ² /No. 18...14 AWG	
Conductor steps			Max 2 conductor steps allowed	Max 2 conductor steps allowed	
Tightening torque			1...1.2 N•m/8.9...10.6 lb•in	1...1.2 N•m/8.9...10.6 lb•in1...1.2	

Table 54 - Auxiliary Contact Specifications—For 140MT-F... Devices

Attribute				Front-mounted Auxiliary Contacts	Right Side-mounted Auxiliary Contacts
Rated Thermal Current I_{th}	at 40 °C (104 °F) ambient temperature		[A]	5	10
	at 60 °C (140 °F) ambient temperature		[A]	4	6
Back-up Fuses gG, gL			[A]	10	10
General Use Current			[A]	5	10
Rated Insulation Voltage U_i	IEC		AC	250	690
	UL/CSA		DC	240	600
Contact rating code designation (UL/CSA)			AC	B300	A600
			DC	R300	Q600
Rated Supply Current I_e	AC-15	24V	[A]	4	6
		120V	[A]	3	6
		240V	[A]	1.5	3
		415V	[A]	—	2
		690V	[A]	—	1
	DC-13	24V	[A]	1.2	2
		125V	[A]	0.22	0.55
		250V	[A]	0.11	0.27
		400V	[A]	—	0.15
		500V	[A]	—	0.13
Type of Terminals					
Recommended screwdriver			Pozidriv No. 2/Blade No. 3	Pozidriv No. 2/Blade No. 3	
Solid	1 or 2 conductors		0.5...1.5 mm ²	0.5...2.5 mm ²	
Flexible with ferrule	1 or 2 conductors		0.5...1.5 mm ²	0.5...2.5 mm ²	
Flexible with insulated ferrule	1 or 2 conductors		0.5...1.5 mm ²	0.5...1.5 mm ²	
Finely stranded	1 or 2 conductors		0.75...1.5 mm ²	0.75...2.5 mm ²	
Cross section per UL/CSA, solid or stranded	1 or 2 conductors		No. 18...14 AWG	No. 18...14 AWG	
Stripping length			9 mm (0.35 in.)	10 mm (0.39 in.)	
Conductor steps			max 2 allowed	max 2 allowed	
Tightening torque			1...1.2 N•m/8.9...10.6 lb•in	1...1.2 N•m/8.9...10.6 lb•in	
Degree of protection per IEC 60529			IP2X	IP2X	

Table 55 - Undervoltage and Shunt Trip Specifications—For 140MT-C..., 140MT-D... and 140MT-F... Devices

Attribute				Undervoltage Trip for Left-side Mounting Cat. No. 140MT-C-UX		Shunt Trip for Left-side Mounting Cat. No. 140MT-C-SN		
Actuating Voltage	Pick-up		[V]	0.85...1.1 x U _s		0.7...1.1 x U _s		
	Drop-out		[V]	0.7...0.35 x U _s		0.7...1.1 x U _s		
Rated AC Control Voltage	140MT-C-UXK	50 Hz	[V AC]	24		—		
		60 Hz	[V AC]	28		—		
	140MT-C-UXD	50 Hz	[V AC]	110		—		
		60 Hz	[V AC]	120		—		
	140MT-C-UXF	50 Hz	[V AC]	220...230		—		
		60 Hz	[V AC]	—		—		
	140MT-C-UXA	50 Hz	[V AC]	—		—		
		60 Hz	[V AC]	240...260		—		
	140MT-C-UXN	50 Hz	[V AC]	380...400		—		
		60 Hz	[V AC]	440...460		—		
	140MT-C-UXB	50 Hz	[V AC]	415		—		
		60 Hz	[V AC]	480		—		
	140MT-C-SNK	50 Hz	[V AC]	—		24		
		60 Hz	[V AC]	—		24...28		
	140MT-C-SND	50 Hz	[V AC]	—		110		
		60 Hz	[V AC]	—		120		
	140MT-C-SNF	50 Hz	[V AC]	—		220...230		
		60 Hz	[V AC]	—		—		
	140MT-C-SNA	50 Hz	[V AC]	—		—		
		60 Hz	[V AC]	—		240...260		
	140MT-C-SNT	50 Hz	[V AC]	—		240		
		60 Hz	[V AC]	—		277		
	140MT-C-SNN	50 Hz	[V AC]	—		380...400		
		60 Hz	[V AC]	—		440...460		
	140MT-C-SNB	50 Hz	[V AC]	—		415		
		60 Hz	[V AC]	—		480		
	On-time				Continuous duty		Continuous duty	
	Coil consumption		Pick-up	[VA/W]	14/10		14/10	
			Hold-in	[VA/W]	4/2		4/2	
	Rated DC Control Voltage	140MT-C-SNZJ		[V DC]	—		24	
On-time			—		Max 5 s			
Coil consumption		Pick-up	[W]	—		50		
Type of Terminals								
Recommended screwdriver				Pozidriv No. 2/Blade No. 3		Pozidriv No. 2/Blade No. 3		
Solid		1 or 2 conductors		0.5...2.5 mm ²		0.5...2.5 mm ²		
Flexible with ferrule		1 or 2 conductors		0.5...2.5 mm ²		0.5...2.5 mm ²		
Flexible with insulated ferrule		1 or 2 conductors		0.5...2.5 mm ²		0.5...2.5 mm ²		
Finely stranded		1 or 2 conductors		0.75...2.5 mm ²		0.75...2.5 mm ²		
Cross section per UL/CSA, solid or stranded		1 or 2 conductors		No. 18...14 AWG		No. 18...14 AWG		
Stripping length				10 mm (0.39 in.)		10 mm (0.39 in.)		
Conductor steps				max 2 allowed		max 2 allowed		
Tightening torque				1...1.2 N•m/8.9...10.6 lb•in		1...1.2 N•m/8.9...10.6 lb•in		
Degree of protection per IEC 60529				IP2X		IP2X		

Table 56 - Feeder Terminals

Description		IEC 60947, UL 60947/CAN/CSA-C22.2 No. 60947			
		Compact Busbar Feeder Terminal		Compact Busbar ⁽¹⁾	
		140MT-C-WTEN	140MT-F-WTE	140MT-C-W...	140MT-F-W55
Rated Thermal Current I_{th} at 60 °C (140 °F) ambient temperature	[A]	64	150	64	150
Type of Terminals					
Recommended screwdriver		Pozidriv No. 2/Blade No. 3			
Flexible with ferrule	1 conductor	2.5...25 mm ²	4...50 mm ²	—	—
Flexible without ferrule	1 conductor	2.5...25 mm ²	4...50 mm ²	—	—
Stranded	1 conductor	16...25 mm ² /No. 16...4 AWG	16...50 mm ² /No. 12...1/0 AWG	—	—
Solid	1 conductor	2.5...10 mm ² /No. 16...8 AWG	2.5...10 mm ² /No. 12...1/0 AWG	—	—
De-isolation (stripping) length	[mm (in)]	14 (0.55)	12 (0.47)	—	—
Tightening torque		3...3.5 N•m/27...31 lb•in	5...6 N•m/45...54 lb•in	—	—

(1) Rated thermal current is 57 A at 70 °C (158 °F) ambient temperature.

Table 57 - Feeder Blocks for Compact Busbars

Description		IEC 60947				UL 60947/CAN/CSA-C22.2 No. 60947			
		140MT-C-WBE		140MT-F-WBE		140MT-C-WBE		140MT-F-WBE	
		L1, L2, L3	T1, T2, T3	L1, L2, L3	T1, T2, T3	L1, L2, L3	T1, T2, T3	L1, L2, L3	T1, T2, T3
Rated Thermal Current I_{th} at 60 °C (140 °F) ambient temp.	[A]	64		120		64		120	
Type of Terminals									
Recommended screwdriver		Pozidriv No. 2/Blade No. 3							
Flexible with ferrule	1 conductor	4...35 mm ² No. 10...2 AWG	1...10 mm ² / No. 16...8AWG for use with 64 A and 92 A busbar	4...50 mm ²	for use with 140MT-F-W55	4...35 mm ² No. 10...2 AWG	1...10 mm ² / No. 16...8AWG for use with 64 A and 92 A busbar	4...50 mm ²	for use with 140MT-F-W55
Flexible without ferrule	1 conductor			4...50 mm ²	—			4...50 mm ²	—
Stranded	1 conductor			16...50 mm ² No. 12...1/0 AWG	—			16...50 mm ² No. 12...1/0 AWG	—
Solid	1 conductor	2.5...35 mm ² No. 14...2 AWG		2.5...10 mm ² No. 12...8 AWG	—	2.5...35 mm ² No. 14...2 AWG		2.5...10 mm ² No. 12...8 AWG	—
De-isolation (stripping) length	[mm (in)]	14 (0.55)	10 (0.39)	12 (0.47)	—	14 (0.55)	10 (0.39)	12 (0.47)	—
Tightening torque		3...3.5 N•m/ 27...31 lb•in	2...2.5 N•m/ 18...22 lb•in	5...6 N•m/ 45...54 lb•in	—	3...3.5 N•m/ 27...31 lb•in	2...2.5 N•m/ 18...22 lb•in	5...6 N•m/ 45...54 lb•in	—

Table 58 - Current Limiter

Description				140MT-D-CL	
Rated Operational voltage U_e				690V	
Rated impulse-withstand voltage U_{imp}				6 kV	
Thermal current I_{th}			IEC	64 A	
			UL	52 A	
Type of Terminals					
Recommended screwdriver				Pozidriv No. 2/Blade No. 3	
Flexible with ferrule	1 conductor			1.5...10 mm ² /No. 14...8 AWG	
	2 conductors			1.5...4 mm ² & 4...10 mm ² / No. 14...10 & 12...8 AWG	
Flexible without ferrule	1 conductor			2.5...10 mm ² /No. 14...8 AWG	
	2 conductors			2.5...6 mm ² & 4...10 mm ² / No. 14...10 & 12...8 AWG	
Stranded	1 conductor			1.5...10 mm ² /No. 14...8 AWG	
	2 conductors			1.5...4 mm ² & 4...10 mm ² / No. 14...10 & 12...8 AWG	
Solid	1 conductor			1.5...10 mm ² /No. 14...8 AWG	
	2 conductors			1.5...4 mm ² & 4...10 mm ² / No. 14...10 & 12...8 AWG	
De-isolation (stripping) length			[mm (in)]	10 (0.39)	
Tightening torque				2...2.5 N•m (18...22 lb•in)	
Short-circuit current rating Current Range	IEC 440...690V	1.6...16 A	140MT-C3E	15 kA	
			140MT-D9	25 kA	
		20...32 A	140MT-C3E	10 kA	
			140MT-D9	25 kA	
		36...40 A	140MT-C3E	—	
			140MT-D9	25 kA	
		0.25...40 A	140MT-C3E	—	
			140MT-D9	—	
	UL 600V	20...32 A	140MT-C3E	30 kA	
			140MT-D9	—	
		2.5...40 A	140MT-C3E	—	
			140MT-D9	50 kA	
0.25...40 A		140MT-C3E	—		
		140MT-D9	—		

Time-Current Characteristic

Figure 10 - Motor Protection Circuit Breakers Time-Current Characteristic, 140MT-C, -D... Devices

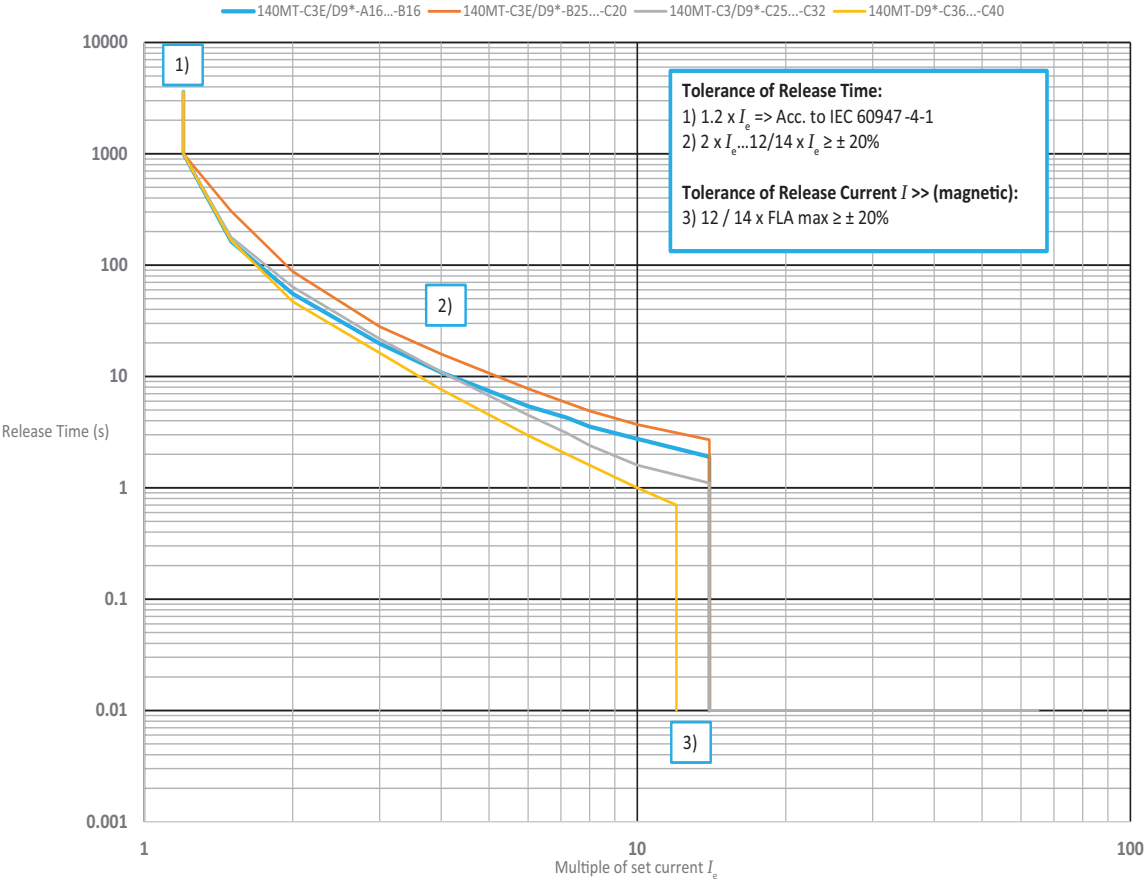
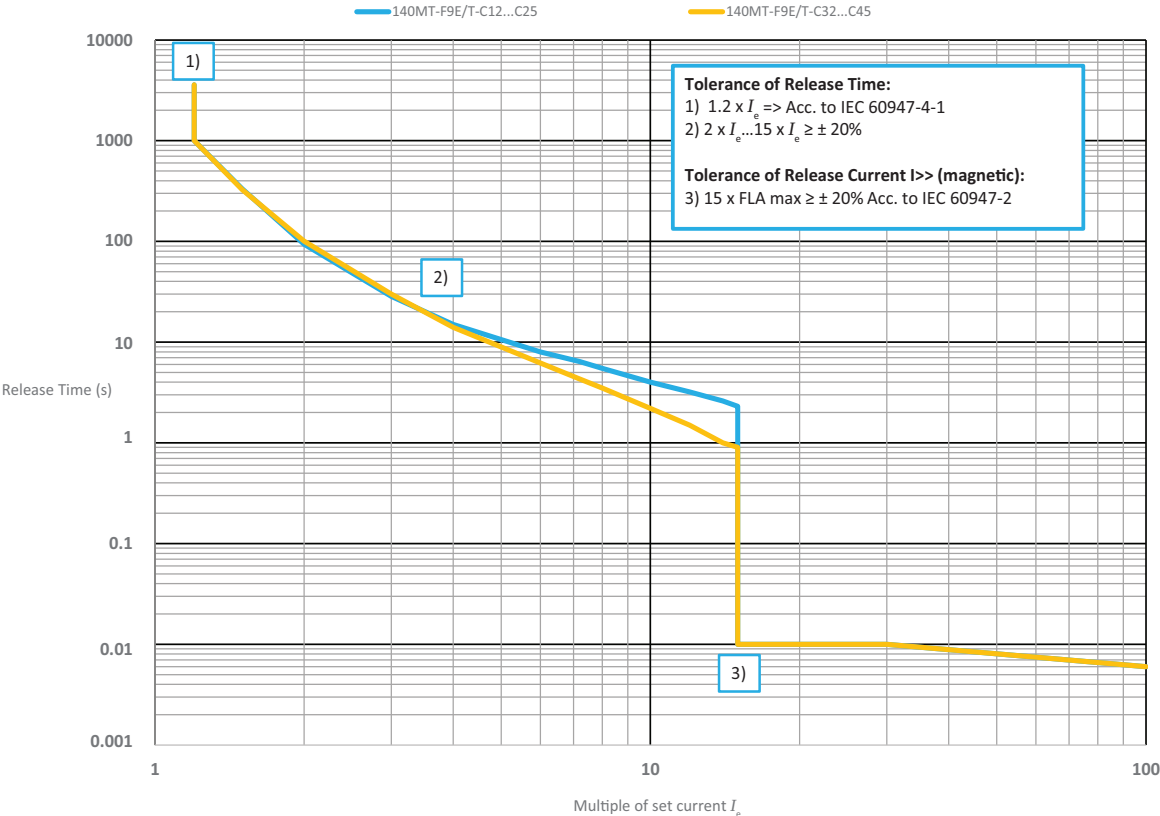


Figure 11 - Motor Protection Circuit Breakers Time-Current Characteristic, 140MT-F... Devices



Thermal Release Trip Current

The adjustable current-dependent delayed bimetal release protects motors against overload. The curve shows the mean operating current at an ambient temperature of 20 °C (68 °F) starting from the cold state. Careful testing and setting ensures effective motor protection even in the case of single phasing. The overload characteristic is also valid for transformer protection.

Magnetic Release Trip Current

The instantaneous magnetic trip has a fixed operating current setting. This corresponds to 13...14 times the maximum value of the setting range. (Transformer protection up to 20 x I_e max.) At a lower setting, it is correspondingly higher.

Current Setting I_e

The overload trip corresponds to a thermal overload relay in a motor starter conforming to IEC 60947-4-1. If a different value is prescribed (for example, reduced I_e for cooling medium having a temperature higher than 40 °C (104 °F) or a place of installation higher than 2000 m (6561 ft) above sea level), the setting current is equal to the reduced rated current I_e of the motor.