Selection and Application

2.1 Model List

Frame				T10	T12	T20	T21	T25	T32	T35	T50	
Applicable standard				JIS C8201-4-1, IEC60947-4-1, EN60947-4-1, GB14048.4								
Model Name	Magnetic Contactors (Without Thermal Overload Relay, Open Type)		Non-Reversing	S-T10	S-T12	S-T20	S-T21	S-T25	S-T32	S-T35	S-T50	
			Reversing	S-2 x T10	S-2 x T12	S-2 x T20	S-2 x T21	S-2 x T25	S-2 x T32	S-2 x T35	S-2 x T50	
	Magnetic Starters (With standard 2-element, With Thermal Overload Relay)	Enclosed Type	Non-Reversing	MS-T10	MS-T12	—	MS-T21	—	—	MS-T35	MS-T50	
			Reversing	—			MS-2 x T21	—	—	MS-2 x T35	MS-2 x T50	
		Open Type	Non-Reversing	MSO-T10	MSO-T12	MSO-T20	MSO-T21	MSO-T25	—	MSO-T35	MSO-T50	
			Reversing	MSO-2 x T10	MSO-2 x T12	MSO-2 x T20	MSO-2 x T21	MSO-2 x T25	—	MSO-2 x T35	MSO-2 x T50	
		Combined Thermal Overload Relays		TH-T18			TH-T25		—	TH-T25 / T50	TH-T25 / T50	
	Magnetic Starters With 3-element type Thermal Overload Relays		Non-Reversing	MSO-T10KP	MSO-T12KP	MSO-T20KP	MSO-T21KP	MSO-T25KP	—	MSO-T35KP	MSO-T50KP	
			Reversing	MSO-2 x T10KP	MSO-2 x T12KP	MSO-2 x T20KP	MSO-2 x T21KP	MSO-2 x T25KP	—	MSO-2 x T35KP	MSO-2 x T50KP	
		Combined Thermal Overload Relays		TH-T18KP			TH-T25KP		—	TH-T25 / T50KP	TH-T25 / T50KP	
Main contact rating	Rated Insulation Voltage [V]			690								
	Rated Impulse Withstand Voltage [kV]			6								
	Rated Frequency [Hz]			50/60								
	Pollution Degree			3								
	Rated operational current / power Category AC-3 (Note 1) (Three-phase squirrel-cage motor load standard responsibility) (Note 2) [kW/A]		AC220 to 240V	2.5/11 [2.2/11]	3.5/13 [2.7/13]	4.5/18 [3.7/18]	5.5/25 [4/20]	7.5/30(26) [5.5/26]	7.5/32 [7.5/32]	11/40 [7.5/35]	15/55 (50) [11/50]	
			AC380 to 440V	4/9 [2.7/7]	5.5/12 [4/9]	7.5/18 [7.5/18]	11/23 [7.5/20]	15/30(26) [11/25]	15/32 [15/32]	18.5/40 [15/32]	22/50 [22/48]	
			AC500V	4/7 [2.7/6]	5.5/9 [5.5/9]	7.5/17 [7.5/17]	11/17 [7.5/17]	15/24 [11/20]	15/24 [11/20]	18.5/32 [15/26]	25/38 [22/38]	
			AC690V	4/5	5.5/7	7.5/9	7.5/9	11/12	11/12	15/17	22/26	
	Rated operational current / power Category AC-4 (Three-phase squirrel-cage motor load inching responsibility) [kW/A]		AC220 to 240V	1.5/8	2.2/11	3.7/18		4.5/20	5.5/26	5.5/26	7.5/35	
			AC380 to 440V	2.2/6	4/9	5.5/13		7.5/17	11/24	11/24	15/32	
			AC500V	2.7/6	5.5/9	5.5/10		7.5/12	7.5/13	11/17	15/24	
	Rated operational current / power Category AC-1 (Resistance, heater load)		AC100 to 240V	20			32			60	80	
			AC380 to 440V	11	13		32			60	80	
	Conventional Free Air Thermal Current Ith [A]			20			32			60	80	
Auxiliary contact rating	Contact Arrangement	Standard Accessory (Note 7)	Non-Reversing	1a	1a1b		2a2b		—	2a2b	2a2b	
			Reversing (Note 8, Note 10)	1a x 2 + 2b	1a1b x 2 + 2b		2a2b x 2		2a2b x 2	2a2b x 2	2a2b x 2	
		Special accessory	Non-Reversing	1b	2a		—	—	—	—	—	
			Reversing (Note 4, Note 6)	1a x 2 + 2b	2a×2+2b		—	—	—	—	—	
		Max. number of additional options (Note 10)	Non-Reversing	1 for UT-AX2/4, 2 for UT-AX11								
			Reversing (Note 8, Note 10)	2 for any UT-AX2/4/11					—	2 for any UT-AX2/4/11		
	Rated Operating Current (Category AC-15: Alternating current coil load) [A]		AC120V	6	6	6	6	6	6	6	6	
			AC240V	3	3	3	3	3	3	3	3	
	Rated Operational Current (Category DC-13 : Direct current coil load)		DC24V	3								
			DC110V	0.6								
	Conventional Free Air Thermal Current Ith [A]			10	10	10	10	10	10	10	10	
Performance	Mechanical Durability [x 10000]			1000								
	Electrical Durability (Note 5) [Ten thousand times]		Category AC-3	200 (Note 5, 6)								
			Category AC-4	3 (Note 5)								
			Category AC-1	50								
	Switching Frequency [Times/Hour]		Category AC-3	1800						1200		
			Category AC-4	300								
			Category AC-1	1200								
Characteristic	Coil consumption (Note7) [VA]		Sealed	7			7		4.5	10		
			Inrush	45			75		55	110		
	Power Consumption (Note 7) [W]			2.2			2.4	2.4	1.8	3.8	3.8	
Outside Dimensions	Magnetic Contactors (without Thermal Overload Relays) (Width x Height x Depth) [mm]		Non-Reversing	36 x 75 x 78	44 x 75 x 78		63 x 81 x 81		43 x 81 x 81	75 x 89 x 91		
			Reversing	82 x 85 x 78	98 x 85 x 78		136 x 81 x 81		96 x 81 x 111	160 x 114 x 97		
	Open Type Magnetic Starters (Width x Height x Depth) [mm]		Non-Reversing	46 x 115 x 79			63 x 128 x 82		—	75 x 157.5 x 91		
			Reversing	90.5 x 125 x 79	98.5 x 125 x 79		136 x 138 x 82		—	160 x 179 x 97		
	Enclosed Magnetic Starters (Width x Height x Depth) [mm]		Non-Reversing	76×165×97.5	—		104×176×110		—	135×231×126		
			Reversing	—	—		220×192×115		—	300×247×130		
IEC 35mm rail mounting				Possible (excluding Enclosed Magnetic Starters)								
Installable Optional Unit Model Names (Note 12)	Additional Auxiliary Contact Units	(Contact Arrangement 1a1b)		UT-AX2/AX11								
		(Contact Arrangement 2a2b)		UT-AX4								
		With Low-Level Signal Contact		—								
	Coil Surge Absorber Units (Note 4)	(Varistor) (Note 4)		UT-SA21								
		(Varistor + Display LED)		UT-SA22								
		(CR)		UT-SA23								
		(Varistor + CR)		UT-SA25								
	DC-AC Interface	Triac Output		UT-SY21								
		Contact Output		UT-SY22								
	Live Part Protection Cover	For Magnetic Starters	Non-Reversing	—								
			Reversing	—								
		For Magnetic Contactors	Non-Reversing	—								
			Reversing	—								
	Terminal Cover	For Magnetic Starters (Non-Reversing)		(Standard Equipment)								
		For Magnetic Contactors (Non-Reversing)		(Standard Equipment)								
	Mechanical Interlock Units			UT-ML11 (Note 13)			UN-ML21					

Note 1. The figure in the square brackets indicates the rated current shown on the rating plate of the product at which the category AC-3 opening/closing durability is 2,000,000 times for T10 to T65 (1,000,000 times for the T20 380V, T80 and T100). Refer to the electric durability curve for the life performance.

Note 2. The value between parentheses for the rated operating current is for the magnetic contactor (without thermal overload relay), while the value between parentheses for the motor capacity applies to an enclosed type magnetic starter.

Note 3. AC operated types T10 to T50, DC operated types T12 to T50 can be manufactured with coil surge absorber (□-□SA type). The UT-SA21 type can be mounted.

Note 4. T65 to N800 types have an integrated coil surge absorber rendering a coil surge absorber unit for prevention of coil switching surges unnecessary.

Note 5. 1 million times for T20 class AC-3 380 V or more types for the rating in parentheses and 15,000 times for class AC-4 types. 15 thousand times for T35 to N800 class AC-4 380 V or more types.

Note 6. Values are for the ratings in parentheses. The electrical durability for the current values not in parentheses varies inversely with the rough square of the current.

Note 7. Mechanically latched types and delay open types have differing auxiliary contact arrangements. Refer to page 100 for details about mechanically latched types, or page 109 for delay open types.