

## Specification List Table

### Magnetic Starters/Magnetic Contactors (DC operated)

Frame			T12	T20	T21	
Applicable standard			JIS C8201-4-1, IEC60947-4-1, EN60947-4-1, GB14048.4			
Model name	Magnetic Contactors (Without Thermal Overload Relays, Open type)	Non-Reversing	SD-T12	SD-T20	SD-T21	
		Reversing	SD-2×T12	SD-2×T20	SD-2×T21	
	Magnetic Starters (With standard 2-element, With Thermal Overload Relays)	Open type	Non-Reversing	MSOD-T12	MSOD-T20	MSOD-T21
		Reversing	MSOD-2×T12	MSOD-2×T20	MSOD-2×T21	
	Combined Thermal Overload Relays		TH-T18			TH-T25
	Magnetic Starters (With 3-element type Thermal Overload Relays)	Open type	Non-Reversing	MSOD-T12KP	MSOD-T20KP	MSOD-T21KP
Reversing		MSOD-2×T12KP	MSOD-2×T20KP	MSOD-2×T21KP		
Combined Thermal Overload Relays		TH-T18KP			TH-T25KP	
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]	220 to 240VAC	3.5/13 [2.7/13]	4.5/18 [3.7/18]	5.5/25 [4/20]	
		380 to 440VAC	5.5/12 [4/9]	7.5/18 [7.5/18]	11/23 [7.5/20]	
		500VAC	5.5/9 [5.5/9]	7.5/17 [7.5/17]	11/17 [7.5/17]	
		690VAC	5.5/7	7.5/9	7.5/9	
	Rated operational current / power Category AC-4 (Three-phase squirrel-cage motor load inching responsibility) [kW/A]	220 to 240VAC	2.2/11	3.7/18		
		380 to 440VAC	4/9	5.5/13		
		500VAC	5.5/9	5.5/10		
Rated operational current / power Category AC-1 (Resistance, heater load)	100 to 240VAC	20	32			
	380 to 440VAC	13	32			
Conventional free air thermal current Ith [A]		20	32			
Minimum applicable load level		48V 200mA				
Auxiliary contact rating	Contact arrangement	Standard accessory	Non-Reversing	1a1b	2a2b	
			Reversing (Note 4, Note 6)	1a1b×2+2b	2a2b×2	
		Special accessory	Non-Reversing	2a	—	
			Reversing (Note 4, Note 6)	2a×2+2b	—	
	Max. number of additional options (Note 5)	H/O (head on)	Non-Reversing	1		
			Reversing	2		
	S/O (side on)	Non-Reversing	2			
		Reversing	2			
	Rated operational current (Category AC-15 : Alternating current coil load)		120VAC	6		
			240VAC	3		
Rated operational current (Category AC-15 : Alternating current coil load)		24VDC	3			
		110VDC	0.6			
Conventional free air thermal current Ith [A]			10			
Minimum applicable load level			20V 3mA			
Performance	Mechanical durability [ten thousand times]		1000			
	Electrical durability [ten thousand times]	Category AC-3	200 (Note 9)			
		Category AC-4	3 (Note 9)			
		Category AC-1	50			
	Switching frequency [time/hour]	Category AC-3	1800			
Category AC-4		300				
		Category AC-1	1200			
Characteristic	Power consumption (Note 7) [W]		3.3 (2.2)		2.4	
Outside dimensions	Magnetic Contactors (without Thermal Overload Relays) (Width x Height x Depth) [mm]	Non-Reversing	44×75×100		63×81×108	
		Reversing	98×85×100		136×81×108	
	Open type Magnetic Starters (Width x Height x Depth) [mm]	Non-Reversing	46×115×101		63×128×109	
		Reversing	98.5×125×101		136×138×115	
IEC 35mm rail mounting		Possible				

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 T12 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 content within ( ) of rated capacity and rated operational current is applied to the Magnetic Starter.

Note 3: Coil surge absorber-mounted type (□-□ SA type) is also manufactured. UT-SA21 type is mounted.

Note 4: +2b of T10 and T12 auxiliary contact arrangements in Reversing type represents b contact built in the UT-ML11 interlock unit.

Note 5: The main unit and auxiliary contact block must be prepared separately and additionally mounted by the user.

Note 6: For auxiliary contact arrangement in Reversing type, X2 is displayed as combined auxiliary contact arrangement of two Magnetic Contactors. Please specify the contact arrangement for which two main units are combined must be designated. <Designation example> In case of 1b x 2 + 2b: 2B

Note 7: The above table shows the reference characteristics for a DC100V coil. The values in ( ) for SD-T12 to T32 indicate the reference characteristics for the DC12V and DC24V coils.

Note 8: Refer to pages 36 for the mountable options.

Note 9: 1,000,000 times for T20 AC-3 Class 380V or higher, and 15,000 times for T35 to T100 AC-4 Class 380V or higher.



	T32	T35	T50	T65	T80	T100
	JIS C8201-4-1, IEC60947-4-1, EN60947-4-1, GB14048.4					
	SD-T32	SD-T35	SD-T50	SD-T65	SD-T80	SD-T100
	SD-2×T32	SD-2×T35	SD-2×T50	SD-2×T65	SD-2×T80	SD-2×T100
	—	MSOD-T35	MSOD-T50	MSOD-T65	MSOD-T80	MSOD-T100
	—	MSOD-2×T35	MSOD-2×T50	MSOD-2×T65	MSOD-2×T80	MSOD-2×T100
	—	TH-T25/T50	TH-T25/T50	TH-T65	TH-T65/T100	TH-T65/T100
	—	MSOD-T35KP	MSOD-T50KP	MSOD-T65KP	MSOD-T80KP	MSOD-T100KP
	—	MSOD-2×T35KP	MSOD-2×T50KP	MSOD-2×T65KP	MSOD-2×T80KP	MSOD-2×T100KP
	—	TH-T25/T50KP	TH-T25/T50KP	TH-T65KP	TH-T65/T100KP	TH-T65/T100KP
	690					
	6					
	50/60					
	3					
	7.5/32 [7.5/32]	11/40 [7.5/35]	15/55(50) [11/50]	18.5/65 [15/65]	22/85 [19/80]	30/105 [22/100]
	15/32 [15/32]	18.5/40 [15/32]	22/50 [22/48]	30/65 [30/65]	45/85 [37/80]	55/105 [45/93]
	15/24 [11/20]	18.5/32 [15/26]	25/38 [22/38]	37/60 [30/45]	45/75 [45/75]	55/85 [45/75]
	11/12	15/17	22/26	30/38	45/52	55/65
	5.5/26	5.5/26	7.5/35	11/50	15/65	19/80
	11/24	11/24	15/32	22/47	30/62	37/75
	7.5/13	11/17	15/24	22/38	30/45	37/55
	32	60	80	100	120	150
	32	60	80	100	120	150
	32	60	80	100	120	150
	48V 200mA					
	—	2a2b	2a2b	2a2b	2a2b	2a2b
	2a2b×2	2a2b×2	2a2b×2	2a2b×2	2a2b×2	2a2b×2
	—	—	—	—	—	—
	—	—	—	—	—	—
	1					
	—	2				—
	2					
	—	2				—
	6					
	3					
	3					
	0.6					
	10					
	20V 3mA					
	1000			500		
	200			100		
	3(Note 9)					
	50					
	1800			1200		
	300					
	1200					600
	1.8	9	9	18	18	24
	43×81×108	75×89×123		88×106×133	88×106×133	100×134×157
	96×81×138	160×114×129		216×115×139	216×115×139	270×147×167
	—	75×157.5×123		90×160×133	90×171.5×133	100×201×157
	—	160×179×129		216×169×139	216×180.5×139	270×208×167
	Possible					
	—					

MS-T Series Introduction

Selection and Application

Application to Thermal Overload Relays

Product Introduction

Overseas Standard

Type Codes

Order Procedure

Outline Drawing

Warranty and Safety