1.4.5 8I74T400037.01P-1, 8I74T400055.01P-1, 8I74T400075.01P-1, 8I74T400110.01P-1

Model number	8I74T400037.01P-1	8I74T400055.01P-1	8I74T400075.01P-1	8I74T400110.01P-1
General information				
Certification				
CE	Yes			
KC	Yes			
UL	UL E225616 Power conversion equipment			
Motor power				
Listed on nameplate	0.37 kW (0.5 HP)	0.55 kW (0.75 HP)	0.75 kW (1 HP)	1.1 kW (1 1/2 HP)
Mains connection				
Mains input voltage	3x 380 VAC -15% to 500 VAC +10%			
Frequency	50 to 60 Hz ±5%			
Apparent power (at 500 VAC)	1.4 kVA	1.9 kVA	2.3 kVA	3.3 kVA
Max. assumed short circuit current (Isc) (short circuit current at connection point)	5 kA [1]			
Inrush current	Max. 10 A [2]			
Mains current				
At 380 VAC	2.1 A [3]	2.8 A [3]	3.6 A [3]	5 A [3]
At 500 VAC	1.6 A [3]	2.2 A [3]	2.7 A [3]	3.8 A [3]
Power dissipation at nominal load and nominal clock frequency	27 W	31 W	37 W	50 W
Integrated EMC filter	Yes [4]			
Line-conducted and radiated emissions				
With integrated filter				
Motor cable length in accordance with IEC/EN 61800-3 Cat. C1 environment 1 (public power system)	-			
Motor cable length in accordance with IEC/EN 61800-3 Cat. C2 environment 1 (public power system)	C2 level from 4 to 12 kHz with 5 m cable			
Motor cable length in accordance with IEC/EN 61800-3 Cat. C3 environment 2 (industrial power system)	5 m [5]			
With add-on filter	8I0FT015.200-1			
With add-on filter				
Motor cable length in accordance with IEC/EN 61800-3 Cat. C1 environment 1 (public power system)	C1 level from 2 to 16 kHz with 20 m cable			
Motor cable length in accordance with IEC/EN 61800-3 Cat. C2 environment 1 (public power system)	C2 level from 2 to 16 kHz with 50 m cable			
Motor cable length in accordance with IEC/EN 61800-3 Cat. C3 environment 2 (industrial power system)	50 m [5]			
Motor connection				
Nominal output current	1.5 A [6]	1.9 A [6]	2.3 A [6]	3 A [6]
Derating of continuous output current depending on ambient temperature				
At nominal clock frequency (4 kHz)	No derating (up to 50°C)			
Other clock frequencies	The derating curves are included in the installation instructions, which can be downloaded from the website (www.br-automation.com).			
Derating of the continuous output current depending on the installation elevation				
Starting at 1000 m above sea level	1%, per 100 m			
Max. transient current for 60 s	2.3 A	2.9 A	3.5 A	4.5 A
Max. transient current for 2 s	2.5 A	3.1 A	3.8 A	5 A
Output frequency range	0.1 to 599 Hz			
Nominal clock frequency	4 kHz			
Clock frequency				
Min.	2 kHz			
Max.	16 kHz			
Braking torque				
With braking resistor	Up to 170% of the rated motor torque			
Max. motor cable length				
Shielded cable	50 m			
Non-shielded cable	100 m			

Table 10: 8I74T400037.01P-1, 8I74T400055.01P-1, 8I74T400075.01P-1, 8I74T400110.01P-1 - Technical data

Model number	8I74T400037.01P-1	8I74T400055.01P-1	8I74T400075.01P-1	8I74T400110.01P-1
Closed-loop motor control profiles				
Induction motor	Flux vector control without an encoder Voltage/frequency ratio - V/f characteristic curve (2 or 5 points) Pump/fan profile (quadratic curve Kn^2) Energy saving profile (especially for ventilation)			
Synchronous motor	Vector control without speed feedback			
Main protective functions on the inverter	Thermal protection against the power stage overheating Protection against: Short circuits between motor phases, overcurrent between output phases and ground, overvoltages on the DC bus, exceeding the limit for rotary speed. Safety function for: Overvoltage and undervoltage on the mains supply, mains phase failure on a 3-phase supply			
Brake chopper				
Integrated dynamic brake transistors	Yes			
Min. resistance value (external)	80 Ω			54 Ω
24 VDC supply				
Input voltage	24 VDC (-15%/+20%)			
Current	Max. 1.1 A			
Available internal power supplies				
Output voltage 24 VDC	24 VDC (-15%/+20%)			
Output voltage 24 VDC				
Max. output current at 24 VDC	100 mA			
Output voltage 10 VDC	10 VDC (-0%/+10%)			
Output voltage 10 VDC				
Max. output current at 10 VDC	10 mA			
Interfaces				
Type	POWERLINK			
Digital inputs				
Quantity	6 [7)]			
Nominal voltage	24 VDC (max. 30 V)			
Input circuit	Source or sink			
Input circuit				
Current consumption	7 mA			
Electrical isolation				
Input - ACOPOSinverter	Yes			
Input - Input	No			
Sampling time	8 ms ±0.7 ms			
Input impedance	3.5 kΩ			
Digital input 5				
Max. input frequency	20 kHz			
Safe input - STO (Safe Torque Off)				
Quantity	1			
Nominal voltage	24 VDC			
Input impedance	1.5 kΩ			
Input impedance				
Current consumption	16 mA			
Switching threshold				
Low	<2 V			
High	>17 V			
Electrical isolation				
Input - ACOPOSinverter	Yes			
Input - Input	No			
Input circuit	Sink			
Sampling time	4 ms			
Analog inputs				
Quantity	3			
Electrical isolation				
Input - Input	No			
Input - ACOPOSinverter	Yes			
Input				
Voltage	0 to 10 V, ±10 V			
Current	0 to 20 mA (or 4 to 20 mA)			
Resolution	10-bit			
Sampling time	2 ms			
Input impedance				
Voltage	30 kΩ			
Current	250 Ω			
Digital outputs				
Quantity	1			
Nominal voltage	24 VDC			
Max. voltage	30 VDC			
Output circuit	Source or sink			
Sampling time	2 ms			
Max. current	100 mA			

Table 10: 8I74T400037.01P-1, 8I74T400055.01P-1, 8I74T400075.01P-1, 8I74T400110.01P-1 - Technical data

Model number	8I74T400037.01P-1	8I74T400055.01P-1	8I74T400075.01P-1	8I74T400110.01P-1
Relay outputs				
Quantity	2			
Nominal voltage	30 VDC / 250 VAC			
Design				
Relay 1	1 changeover contact			
Relay 2	1 normally open contact			
Electrical isolation				
Output - ACOPOSinverter	Yes			
Output - Output	No			
Response time (max.)	2 ms			
Analog outputs				
Quantity	1			
Output	0 to 10 V or 0 to 20 mA			
Electrical isolation				
Output - ACOPOSinverter	Yes			
Output - Output	No			
Max. load impedance				
Voltage	470 Ω			
Current	800 Ω			
Update time	2 ms			
Resolution	10-bit			
Operating conditions				
EN 60529 protection	IP20			
Relative humidity in accordance with IEC 60068-2-3	5 to 95%, non-condensing No dripping water			
Maximum installation elevation	Up to 2000 m [8]			
Max. pollution degree in accordance with IEC/EN 61800-5-1	2 (non-conductive pollution)			
Environmental conditions in accordance with IEC 60721-3-3	Class 3C3 and 3S3			
Operating position	Vertical installation ±10%			
Environmental conditions				
Temperature				
Operation	-10 to 50°C without derating 50 to 60°C with derating			
Storage	-25 to 70°C			
Max. vibration resistance	1 g_n 13 to 200 Hz EN/IEC 60068-2-6 1.5 mm peak to peak 3 to 13 Hz EN/IEC 60068-2-6			
Mechanical characteristics				
Dimensions [9]				
Width	45 mm			
Height	317 mm			
Depth	245 mm			
Weight	1.618 kg	1.715 kg		1.705 kg

Table 10: 8I74T400037.01P-1, 8I74T400055.01P-1, 8I74T400075.01P-1, 8I74T400110.01P-1 - Technical data

1) With line choke max. Isc 65 kA for 380/500 V.
2) Peak current when switching on for maximum voltage (240 V +10% or 500 V +10%)
3) Typical value for 4-pole motor and a max. clock frequency of 4 kHz, without mains choke for the max. assumed short circuit current (Isc).
4) Inverter supplied with an integrated Category C2 EMC filter. This filter can be turned off.
5) The selection table for the filters specifies the maximum length of the shielded cables between motors and inverters. These maximum cable lengths only serve as a reference point since they depend on the capacity of the motors and the cables being used. The total length should be taken into consideration when motors are connected in parallel. These values apply at a rated clock frequency of 4 kHz.
6) These values apply at a rated clock frequency of 4 kHz during continuous operation. The clock frequency can be set from 2 to 16 kHz. Above 4 kHz, reduce the rated drive current. The motor current is not permitted to exceed this value.
7) 1 logic input can be programmed as a 20 kbps pulse input. 1 logic input is configurable as an input for a PTC sensor using a switch (SW2). Trigger resistance 3 kΩ, reset value 1.8 kΩ, short circuit protection <50 Ω
8) Over 2000 m, load reduced by 1% per 100 m
9) With shield plate