

Main Features

- NEW Control panel with Real time clock. Optional Bluetooth communication.
- Available as robust and certified IP54 metal construction or IP20/21 version.
- All drive sizes are delivered with a built-in Category C3 EMC-filter as standard. C3 requirements are fulfilled with 80 m motor cable (IP2Y= 25m).
- Direct torque control reacts extremely quickly and eliminates disturbances due to abrupt load changes.
- Load monitor function included as standard.
- UL (UL 840) approved version available (not IP2Y).
- Marine (DNV-GL & BV) approved version available (not IP2Y, IP2x).
- Integrated vector braking ensures quick and controlled stops, increasing productivity and safety.
- Built-in brake chopper is standard for IP2Y models and available as option for all other.
- Temp / Speed controlled fans assures less noise, a more even drive temperature and higher drive efficiency.
- Detachable multi-language control panel included as standard. Following languages are supported in the control panel:
- English, Swedish, Dutch, German, French, Spanish, Russian, Italian, Czech, Turkish and Polish.
- Operation parameters can be set in your process units, for example m/sec, tons/h or cycles/min.
- Removable control panel with own memory means it is easy to transfer or copy settings.
- Liquid cooled version available for sizes above 90 A.

Component name	VFX69-033-54
Suitable Motor Capacity Capacity <i>(KW)</i>	22
Rated Output Current(A)	26
Maximum Output Current(A)	53
Input Voltage Range(V)	Three-phase 400~ 690V, 50/60Hz
Allowable Voltage Fluctuation	-15%~ +10%
Output Voltage range(V)	Three-phase 0~480V
Mains Frequency (Hz)	45 to 65
Output Switching Frequency (kHz)	3
Input Power Factor (%)	0.95
Environmental conditions	
Nominal ambient temperature	0°C - 40°C (32°F- 104°F)
Atmospheric pressure	86–106 kPa (12.5 - 15.4 PSI)
Relative humidity according to IEC 60721-3-3	Class 3K4, 595% and no condensing

GENERAL SPECIFICATION



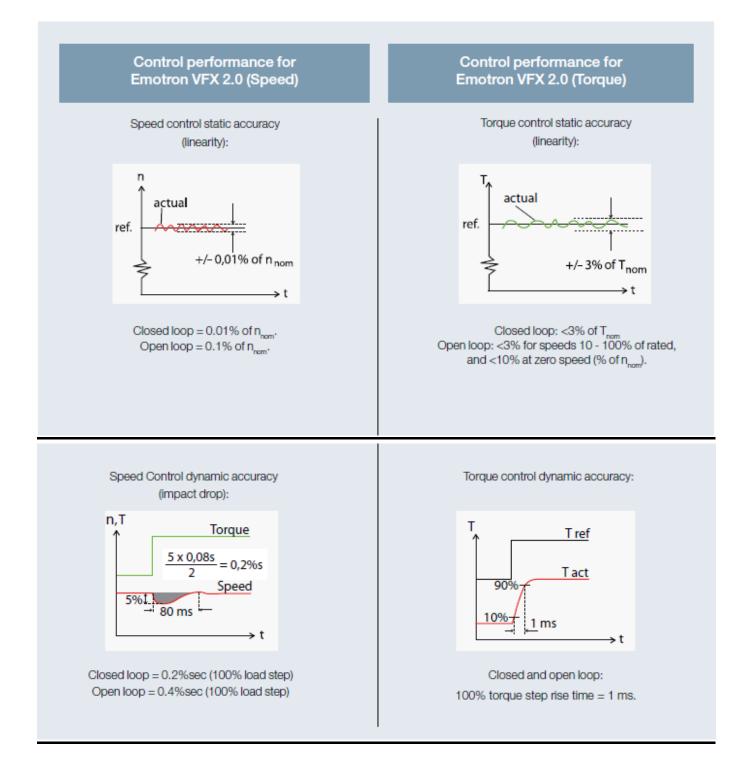
Contamination, according to IEC 60721-3-3	No electrically conductive dust allowed. Cooling air must be clean and free from corrosive materi-als. Chemical gases, class 3C2 (coated boards 3C3). Solid particles, class 3S2. VFX48-2K5-54		
Component name Vibrations	According to IEC 60068-2-6, Sinusoidal vibrations: 10 <f<57 (0.00295="" 0.075="" ft)<br="" hz,="" mm="">57<f<150 (0,035="" 1g="" hz,="" oz)<="" td=""></f<150></f<57>		
Altitude	0–1000 m (0 - 3280 ft) with derating 1%/100 m (328 ft) of rated current		
Storage temperature	-20 to +60 °C (-4 to + 140 °F)		
Storage atmospheric pressure	86–106 kPa (12.5 - 15.4 PSI)		
Storage relative humidity according to IEC60721-3-1	Class 1K4, max. 95% and no condensing and no formation of ice.		
Basic I/O Data Control signal inputs: Analogue (differential), 4 channels			
Analogue voltage/current	0-±10 V/0-20 mA via switch		
Max. input voltage	+30 V		
Input impedance Resolution	20 kΩ (voltage), 250 Ω (current)		
Hardware accuracy	11 bits + sign 0.5% type + 1 ½ LSB fsd		
Non-linearity	1½ LSB		
Digital inputs: 8 channels	172 101		
Input voltage	High >9 VDC, Low<4 VDC		
Max. input voltage	+30 VDC		
Input impedance	<3.3 VDC: 4.7 kΩ , ≥3.3 VDC: 3.6 kΩ		
Signal delay	≤8 ms		
	Control signal outputs: Analogue, 2 channels		
	nnels		
Control signal outputs: Analogue, 2 char Output voltage/current	0-10 V/0-20 mA via software setting		
Control signal outputs: Analogue, 2 char Output voltage/current Max. output voltage	0-10 V/0-20 mA via software setting +15 V @5 mA cont.		
Control signal outputs: Analogue, 2 char Output voltage/current Max. output voltage Short-circuit current (∞)	0-10 V/0-20 mA via software setting +15 V @5 mA cont. +15 mA (voltage) +140 mA (current)		
Control signal outputs: Analogue, 2 char Output voltage/current Max. output voltage Short-circuit current (∞) Output impedance	0-10 V/0-20 mA via software setting +15 V @5 mA cont. +15 mA (voltage) +140 mA (current) 10 Ω (voltage)		
Control signal outputs: Analogue, 2 char Output voltage/current Max. output voltage Short-circuit current (∞) Output impedance Resolution	0-10 V/0-20 mA via software setting +15 V @5 mA cont. +15 mA (voltage) +140 mA (current) 10 Ω (voltage) 10 bit		
Control signal outputs: Analogue, 2 char Output voltage/current Max. output voltage Short-circuit current (∞) Output impedance Resolution Maximum load impedance for current	0-10 V/0-20 mA via software setting +15 V @5 mA cont. +15 mA (voltage) +140 mA (current) 10 Ω (voltage) 10 bit 500 Ω		
Control signal outputs: Analogue, 2 char Output voltage/current Max. output voltage Short-circuit current (∞) Output impedance Resolution Maximum load impedance for current Hardware accuracy	0-10 V/0-20 mA via software setting +15 V @5 mA cont. +15 mA (voltage) +140 mA (current) 10 Ω (voltage) 10 bit 500 Ω 1.9% type fsd (voltage), 2.4% type fsd (current)		
Control signal outputs: Analogue, 2 char Output voltage/current Max. output voltage Short-circuit current (∞) Output impedance Resolution Maximum load impedance for current Hardware accuracy Offset	$\begin{array}{l} 0-10 \text{ V/0-20 mA via software setting} \\ +15 \text{ V @5 mA cont.} \\ +15 \text{ mA (voltage) +140 mA (current)} \\ 10 \Omega (voltage) \\ 10 \text{ bit} \\ 500 \Omega \\ 1.9\% \text{ type fsd (voltage), 2.4\% type fsd (current)} \\ 3 \text{ LSB} \end{array}$		
Control signal outputs: Analogue, 2 char Output voltage/current Max. output voltage Short-circuit current (∞) Output impedance Resolution Maximum load impedance for current Hardware accuracy Offset Non-linearity	0-10 V/0-20 mA via software setting +15 V @5 mA cont. +15 mA (voltage) +140 mA (current) 10 Ω (voltage) 10 bit 500 Ω 1.9% type fsd (voltage), 2.4% type fsd (current)		
Control signal outputs: Analogue, 2 char Output voltage/current Max. output voltage Short-circuit current (∞) Output impedance Resolution Maximum load impedance for current Hardware accuracy Offset	$\begin{array}{l} 0-10 \text{ V/0-20 mA via software setting} \\ +15 \text{ V @5 mA cont.} \\ +15 \text{ mA (voltage) +140 mA (current)} \\ 10 \Omega (voltage) \\ 10 \text{ bit} \\ 500 \Omega \\ 1.9\% \text{ type fsd (voltage), 2.4\% type fsd (current)} \\ 3 \text{ LSB} \end{array}$		
Control signal outputs: Analogue, 2 char Output voltage/current Max. output voltage Short-circuit current (∞) Output impedance Resolution Maximum load impedance for current Hardware accuracy Offset Non-linearity Digital outputs: 2 channels	0-10 V/0-20 mA via software setting +15 V @5 mA cont. +15 mA (voltage) +140 mA (current) 10 Ω (voltage) 10 bit 500 Ω 1.9% type fsd (voltage), 2.4% type fsd (current) 3 LSB 2 LSB High>20 VDC @50 mA, >23 VDC open		
Control signal outputs: Analogue, 2 charOutput voltage/currentMax. output voltageShort-circuit current (∞)Output impedanceResolutionMaximum load impedance for currentHardware accuracyOffsetNon-linearityDigital outputs: 2 channelsOutput voltage	0-10 V/0-20 mA via software setting +15 V @5 mA cont. +15 mA (voltage) +140 mA (current) 10 Ω (voltage) 10 bit 500 Ω 1.9% type fsd (voltage), 2.4% type fsd (current) 3 LSB 2 LSB High>20 VDC @50 mA, >23 VDC open Low<1 VDC @50 mA		
Control signal outputs: Analogue, 2 charOutput voltage/currentMax. output voltageShort-circuit current (∞)Output impedanceResolutionMaximum load impedance for currentHardware accuracyOffsetNon-linearityDigital outputs: 2 channelsOutput voltageShort-circuit current (∞)Relays, 3pcsContacts	0-10 V/0-20 mA via software setting +15 V @5 mA cont. +15 mA (voltage) +140 mA (current) 10 Ω (voltage) 10 bit 500 Ω 1.9% type fsd (voltage), 2.4% type fsd (current) 3 LSB 2 LSB High>20 VDC @50 mA, >23 VDC open Low<1 VDC @50 mA		
Control signal outputs: Analogue, 2 charOutput voltage/currentMax. output voltageShort-circuit current (∞)Output impedanceResolutionMaximum load impedance for currentHardware accuracyOffsetNon-linearityDigital outputs: 2 channelsOutput voltageShort-circuit current (∞)Relays, 3pcsContactsReference voltages	0-10 V/0-20 mA via software setting +15 V @5 mA cont. +15 mA (voltage) +140 mA (current) 10 Ω (voltage) 10 bit 500 Ω 1.9% type fsd (voltage), 2.4% type fsd (current) 3 LSB 2 LSB High>20 VDC @50 mA, >23 VDC open Low<1 VDC @50 mA 100 mA max (together with +24 VDC) 0.1 – 2 A/Umax 250 VAC or 42 VDC		
Control signal outputs: Analogue, 2 charOutput voltage/currentMax. output voltageShort-circuit current (∞)Output impedanceResolutionMaximum load impedance for currentHardware accuracyOffsetNon-linearityDigital outputs: 2 channelsOutput voltageShort-circuit current (∞)Relays, 3pcsContacts	0-10 V/0-20 mA via software setting +15 V @5 mA cont. +15 mA (voltage) +140 mA (current) 10 Ω (voltage) 10 bit 500 Ω 1.9% type fsd (voltage), 2.4% type fsd (current) 3 LSB 2 LSB High>20 VDC @50 mA, >23 VDC open Low<1 VDC @50 mA		

Product data sheet



+24 VDC	+24 VDC short-circuit current +100 mA max (together with
	Digital Outputs)

PERFORMANCE



Product data sheet

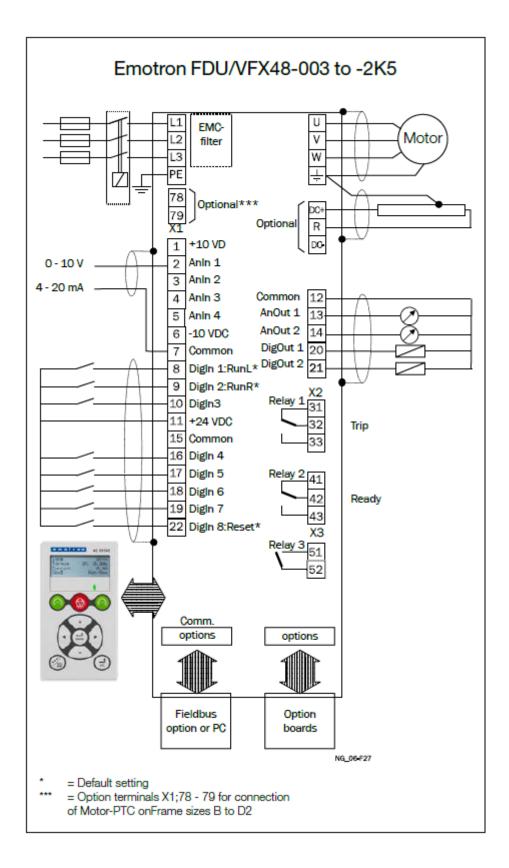


Control performance for Emotron FDU 2.0 (V/Hz)

Speed control accuracy = approximately 1% of nnom (slip frequency). Torque accuracy = approximately 5% of Tnom (20 - 100% speed).

TEC

GENERAL WIRING DIAGRAM

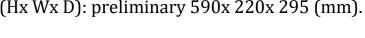




X1	Name:	Function (Default):
1	+10V	+10 VDC Supply voltage
2	AnIn 1	Speed reference
3	AnIn 2	Not Used
4	AnIn 3	Not Used
5	AnIn 4	Not Used
6	-10V	-10VDC Supply voltage
7	Common	Signal ground
8	DigIn 1	RunL
9	DigIn 2	RunR
10	DigIn 3	Not Used
11	+24VDC	+24VDC Supply voltage
12	Common	Signal ground
13	AnOut 1	Min speed to max speed
14	AnOut 2	0 to max torque
15	Common	Signal ground
16	DigIn 4	Not Used
17	DigIn 5	Not Used
18	DigIn 6	Not Used
19	DigIn 7	Not Used

X1	Name:	Function (Default):
20	DigOut 1	Ready
21	DigOut 2	Brake/No trip
22	DigIn 8	Reset
X2	Name:	
31	N/C 1	Relay 1 Output= Trip.
32	COM 1	Active when the AC drive is
33	N/0 1	in a Trip condition. The N/C is opened when the relay is active (valid for all relays). The N/O is closed when the relay is active (valid for all relays).
41	N/C 2	Relay 2 Output= Ready.
42	COM 2	Active when the AC drive is
43	N/O 2	ready to start.
X3	Name:	Function (Default):
51	COM 3	Relay 3 Output= Not used.
52	N/O 3	

DRIVE DIMENSIONS (Hx Wx D): preliminary 590x 220x 295 (mm).





Head Office, Sydney TECO Australia Pty Ltd 335-337 Woodpark Road, Smithfield NSW 2164 Tel: 02 9765 8118 Fax: 02 9604 9330



Melbourne TECO Australia Pty Ltd 16 Longstaff Road, Bayswater VIC 3153 Tel: 03 9720 4411 Fax: 03 9720 5355



Brisbane TECO Australia Pty Ltd 50 Murdoch Circuit, Acacia Ridge OLD 4110 Tel: 07 3373 9600 Fax: 07 3373 9699



Perth

TECO Australia Pty Ltd 18 Hazelhurst Street, Kewdale WA 6105 Tel: 08 9479 4879 Fax: 08 9478 3876



New Zealand

TECO New Zealand Ltd Unit 3, 477 Great South Road, Penrose, Auckland Tel: 64 9-526 8480 Fax: 64 9-526 8484 sales@teco.co.nz