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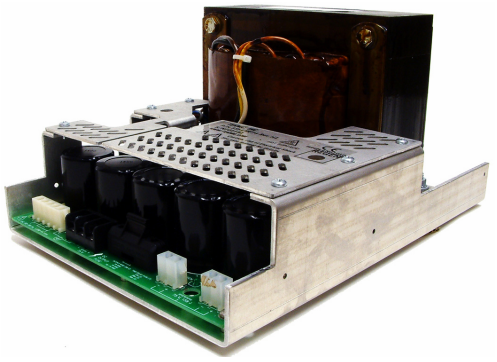
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Find the *Teknic SSt-EMF75* at our website: *Click HERE*

EMF-75

Bulk, Linear 75 Volt Power Supply



The EMF-75 is a high capacity, bulk, linear power supply. This straightforward, reliable device enables OEMs to economically and easily realize the benefits of DC powered servo drives.

The EMF-75 may be sized for applications with four or more axes. This supply reduces parts count (because each servo drive no longer needs an on-board supply) and simplifies wiring.

Because servo drives regulate power internally, a regulated power supply is not needed. In fact, the EMF-75 delivers a number of performance advantages over most regulated supplies. For example, the capacitive bank provides a "well" of instantly available power, so the EMF-75 will not clip servo dynamic range. Additionally, the EMF-75 captures regenerative motor energy, which lowers machine power consumption. This supply also has quick disconnect input voltage selection terminals, so OEMs realize repeatable drive voltage regardless of incoming line voltage conditions. The result is consistent servo capability without the need for costly line-conditioning devices.

The CE rated EMF-75 works effectively with 110 or 220 VAC input power at 50 to 60 Hz.

ENABLES USE OF OEM-FRIENDLY DRIVES

DC powered servo drives provide OEMs producing equipment with multiple motion axes an implementation and reliability advantage over AC powered servos. These advantages include:

- One power supply per machine instead of one per axis (i.e., onboard each A/C drive). This reduces component count and removes a significant heat source from the drive, which reduces component stress.
- DC drives allow engineers to bus DC instead of AC, which eases compliance effort.
- DC drives can be made smaller per unit of output power. Because smaller drives are more easily distributed, this reduces cabling and may eliminate control drawers.

EMF-75 IMPROVES POWER EFFICIENCY

Providing a "well" of power via a capacitive bank, the EMF-75 lowers peak AC input power demands without compromising servo performance like a regulated supply. In fact, Teknic recommends against the use of regulated supplies with any SSt or ISC servo due to inadequate instantly-available power. Moreover, the EMF-75 captures the back EMF energy generated by decelerating motors in its capacitor bank. This power is then instantly available for other axes that are consuming power or it is stored for future use. This conservation of energy typically reduces machine power consumption. And in the unusual event of excessive regenerative energy, the EMF-75 has built-in regeneration shunt control to effectively dissipate excess energy to prevent over-voltage drive shutdowns.

CE

The EMF-75 is CE rated (EN 61010). In addition, each EMF-75 undergoes full functional test prior to shipment.

RELIABLE SYSTEM PERFORMANCE

The EMF-75 is a simple, field-proven device that provides many years of trouble-free performance. With a quick disconnect tap design, motion performance is repeatable and reliable regardless of machine geographic location. By simply changing a tap location (via spade lugs), installation technicians can adjust the EMF-75 to incoming line AC levels so servo drives receive optimal DC bus voltage. This eliminates performance losses due to low line conditions or the risk of over voltage in high line conditions, without the expense of line conditioning devices. Adjusting for nominal incoming AC voltage is as simple as adjusting lugs according to the following chart:

Input Voltage (± 4%)	**P9 on PCB**	**P10 on PCB**	**P11 on PCB**	**P12 on PCB**
100/200 VAC	Yellow	Brown	White	Black
107/214 VAC	Black	Yellow	Brown	White
117/234 VAC	Brown	White	Black	Yellow
126/252 VAC (Ship-out setting)	White	Black	Yellow	Brown

Technical note: Power method is not related to commutation method. Every Teknic digital servo drive, analog torque amplifier and integrated controller/drive incorporates AC commutation (also known as sinewave) with vector feed-forward and DQ decoupling. Teknic manufactures both DC and AC powered servos ranging from 100 watts to over 6000 watts.

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EMF-75 BENEFITS

Ends Over-Voltage Shutdown

In addition to a large capacitance bank, the EMF-75 has built-in regeneration circuitry to prevent excessive bus voltage.

Fully Fused with Indicator

The EMF-75 has input and output fuse protection with an at-a-glance output fuse indicator LED.

Minimal Voltage Sag

With 47,000 µF of capacitance and a high RMS input, it provides stout power so voltage won't droop even during peak utilization.

Clean Power

The EMF-75 delivers clean, filtered DC power to the drives.

Lower Electrical Noise

The DC architecture eliminates the need for switching power supplies in every drive. This reduces drive-generated noise and eliminates the CE shielding requirements placed on OEMs using AC power drives.

Lower Machine Cost

The EMF-75 is cost effective and enables the use of lower cost drives. In addition, there are several components that are eliminated:

- Drive heat sinks
- Ferrite beads
- Regeneration circuits
- AC shielding & filters
- Custom connectors
- Transformers intended for optimizing drive power

SPECIFICATIONS

(Typical unless tolerance specified)

GENERAL	Dimensions, in (mm):	11.00 (279.4) x 8.00 (203.2) x 5.50 (139.7).
	Weight, lbs (kg):	28 (12.7).
	Qualifications/testing:	Hipot, calibration, full functional test.
	Certifications:	CE (EN 61010).
ENVIRONMENTAL	Temperature:	0-40 Degrees C.
	Humidity:	10-90%, non-condensing.
	Type:	Pollution degree 2.
	Power connection:	Installation category II (per IEC 664).
RATED LOAD CURRENT	RMS:	10.0A.
	Peak (3 sec.):	30.0A.
OUTPUT VOLTAGE	No load:	82.0 (max).
	At rated current:	70.0 (min).
INPUT VOLTAGE	VAC:	96-131 VAC or 192-262 VAC (50-60 Hz).
	Settings:	4 taps (See Input Connections table).
FUSE RATINGS	Type:	6A/250V Bussman #MDQ-6 double slow blow (in parallel for 110; in series for 220).
ISOLATION	Hi-pot test voltage:	1350 VAC.
MISC POWER VALUES	Consumption:	1280VA.
	Energy storage:	132 joules.
	Regen circuit-on level:	84 VDC (±1V).
AC INPUT CONNECTOR	Type:	AMP 5 pin Universal Mate-N-Lok.
	Vendors/part #s:	AMP/1-480763-0, DigiKey/A1454-ND, Mouser/571-14807630.
75 VDC OUTPUT CONNECTORS	Type:	Terminal block or AMP Universal Mate-N-Lok (AMP part # 1-480698-0).
COUNTRY OF ORIGIN	Manufactured in:	USA.

EMF-75 Input Wiring

When connecting AC, use the following wiring table to configure for 110 or 220 AC voltage:

Input AC Voltage	AMP: Pin 1	AMP: Pin 2	AMP: Pin 3	AMP: Pin 4	AMP: Pin 5
110 VAC	AC Input & Jumper to 3	Jumper to 4	Jumper to 1	AC Input & Jumper to 2	Chassis ground
220 VAC	AC Input	AC Input	Jumper to 4	Jumper to 3	Chassis ground

EMF-75 Output Wiring

Proper output wire gauge is based upon the number of SSt drives daisy chained. The wire gauge must also be appropriate for the estimated peak and continuous current draw and the wire must be rated for 90ºC. Your Teknic application engineer can help provide selection assistance.

# SSt-1500s in a power chain	Smallest diameter wire gauge required	Output fuse or Breaker required	Fuse Vendor: LittleFuse, Part #:
1-3	18 AWG	10A time delay (T)	326-010
4-5	16 AWG	15A time delay (T)	326-015
5+	14 AWG	20A time delay (T)	326-020

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