





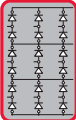

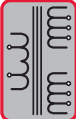

TMdrive-XL55

TMEiC
We drive industry

Medium Voltage Multilevel Drive Up to 16,000kVA at 6.6kV

The TMdrive-XL55 is a medium-voltage, variable-frequency AC drive for industrial power ratings up to 16 MVA, in the voltage range of 6.0-6.6 kV. Featuring high-quality design and manufacture, the water cooled TMdrive-XL55 provides high reliability, low harmonic distortion, and meets users' basic system requirements as described below:



Design Feature	Benefits
 <ul style="list-style-type: none">• Conservative design using 4500 Volt IGBTs (Insulated Gate Bipolar Transistor)	<ul style="list-style-type: none">• Highly reliable operation and expected 87,000 hour (10-year) drive MTBF, based on field experience with over 700 medium voltage drive installations
 <ul style="list-style-type: none">• High energy efficiency of approximately 98.6%	<ul style="list-style-type: none">• Considerable energy savings
 <ul style="list-style-type: none">• Diode rectifier ensures power factor greater than 95% in the typical speed control range	<ul style="list-style-type: none">• Capacitors are not required for power factor correction
 <ul style="list-style-type: none">• Multiple level drive output waveform to the motor (five levels)	<ul style="list-style-type: none">• Smooth output voltage, motor friendly wave form
 <ul style="list-style-type: none">• 36-pulse converter rectifier using separated phase shifted transformer	<ul style="list-style-type: none">• No harmonic filter required to provide lower harmonic distortion levels than IEEE-519-1992 guidelines
 <ul style="list-style-type: none">• Designed to keep running after utility supply-transient voltage dropouts – up to 300 msec.	<ul style="list-style-type: none">• Uninterrupted service for critical loads
 <ul style="list-style-type: none">• Externally mounted input isolation transformer	<ul style="list-style-type: none">• Less power loss in drive room• Less total space required• Simplified design and installation
 <ul style="list-style-type: none">• 6.6 kV direct drive voltage output level	<ul style="list-style-type: none">• No output transformer required, saving cost, mounting space, and energy

TMdrive-XL55 Specifications

Dimensions and Weights

	kVA	Height (mm)	Width (mm)	Depth (mm)	Est. Weight (kg)
6.6kV	8000	2525	5600	1300	7200
	16000	2525	9200	1300	12200

Control I/O

Control Area	Specifications
Analog Inputs	(2) ± 10 V or 4–20 mA, configurable, differential
Analog Outputs	(4) ± 10 V, 8-bit, configurable, 10 mA max
Digital Inputs	(2) 24–110 V dc or 48–120 V ac; (6) 24 V dc, configurable
Digital Outputs	(6) 24 V dc open collector 50 mA
Speed Feedback Encoder Input	High-resolution tach, 10 kHz, 5 or 15 V dc diff. input, A Quad B, with marker
LAN Interface Options	Profibus-DP, ISBus, DeviceNet™, TOSLINE®-S20, or Modbus RTU
Motor Temperature Sensor	High-resolution torque motor temperature feedback: 1 K Ohm platinum resistor or 100 Ohm platinum RTD (uses analog input with signal conditioner)

Mechanical Specifications

Operating Environment and Needs

- Temperature: 0° to +40°C
- Humidity: 95% maximum, noncondensing
- Altitude: Up to 1000 m (3300 ft) above sea level
- Fan/pre-charge Power (by user): 380/400/440 Vac, 3 phase, 50 Hz or 60 Hz

Cooling

- Water-cooled with fans on top
- Temperature of industrial cooling water: 0–32°C at cooler inlet, 0–45°C with derating

Sound

- Less than 75 dBA, at 3.1 ft (1 m) from enclosure

Vibration

- 10 to 50Hz, 0.5G or less
- IEC61800-4 5-1-22

Enclosure

- IP42 except for fan openings (IEC 60529), NEMA1 gasketed equivalent
- Color: Munsell 5Y7/1 (Option: ANSI 61 gray, RAL7032 etc.)
- Air filter on front and rear door, can replace with door closed

Additional Specifications

Power System Input and Harmonic Data

- Voltage: 3 x 2 x 1930 Vac, 3-phase, $\pm 10\%$
- 100% continuous load, no overload
- Main circuit withstand voltage: 17kV for one minute
- Frequency: 50 Hz or 60 Hz, ± 2 Hz
- Displacement power factor (PF): 0.95 lag
- True PF: greater than 0.95 lag over 40–100% speed range
- Better than the IEEE 519-1992 standard for harmonics, without filters
- Bottom cable entry, top entry option
- Cooler Power: 380V - 50Hz; 400V - 50/60Hz; 440V - 60Hz; other options

Converter Type

- AC-fed multi-pulse diode using phase shifted transformer
- DC bus voltage: 3 x 5000 Vdc

Inverter

- Five-level inverter for motor friendly wave form
- Motor voltage: 6600 or 6000 Vac
- Rated frequency: 50/60Hz
- 250Hz, for over 75Hz consult TMEIC

Applicable Standards

- IEC61800-4, JIS, JEC, JEM, C (option), CSA (option)

Control

- Nonvolatile memory for parameters and fault data
- Vector control with or without speed feedback, or Volts/Hz control with slip compensation for IM
- Synchronous transfer to line option
- Synchronous motor control (option)

Protective Functions

- Inverter overcurrent, overvoltage
- Low or loss of system voltage
- Motor ground fault
- Motor overload
- Cooling fan abnormal
- Over-temperature
- CPU error

Display and Diagnostics

	Specifications
PC Configuration	Control System Drive Navigator for configuration, local and remote monitoring, animated block diagrams, dynamic live and capture buffer based trending, fault diagnostics, commissioning wizard, and regulator tune-up wizards. Ethernet 10 Mbps point to point or multi-drop, each drive has its own IP address
Keypad and Display	Backlit LCD, animated displays <ul style="list-style-type: none"> • Parameter editing • Four configurable bar graphs • Drive control
Instrumentation Interface	Two analog outputs dedicated to motor current feedback, plus five analog outputs that can be mapped to variables for external data logging and analysis

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