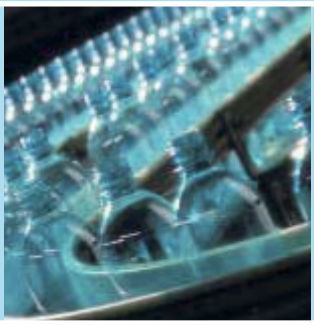
L&T Electrical & Automation






Sx2000 IP66 Drive

For over two decades, various industry sectors have been reaping the benefits of L&T Electrical & Automation (E&A)'s cost-effective, performance-oriented AC Drive solutions. E&A's grasp of the specific needs of each industry enables it to offer application-specific solutions for various industries - such as processing, textile, plastic, ceramic, pharmaceutical, elevator, oil & gas, power, cement and material- handling.

Sx2000 IP66 Drive provides protection against harsh environmental conditions by restricting entry of foreign substances such as fine dust and high-pressure water spray

What is IP-XX?

IP-XX denotes the degree of dust & water resistance, it is abbreviation of the IEC standard 60529 for Ingress Protection to the enclosures.

IP - 6 6

First Digit - SOLIDS	Second Digit - LIQUIDS
❖ Protected against access to hazardous parts with a wire of 1mm Ø ❖ No ingress of dust - dust tight	❖ Protected against powerful water jets from any direction

Features

- Range: 0.75kW to 22kW (HD)
- V/F, Sensorless vector control, Slip compensation
- Starting torque: 150% at 3 Hz for V/F, 200% at 0.5Hz for vector control
- Peer to peer communication to share I/O's
- Built-in brake control
- User Sequence - PLC functionality
- Component life monitor
- Inbuilt PID
- No motor detection
- Conformal coating complying to IEC 60721-3-3 class 3C3 (Avg)
- Built-in RS485 modbus RTU communication
- Built-in braking chopper

Industrial Applications

- Textiles
- Pharma
- HVAC
- Food & Beverages
- Ceramics
- Waste Water Treatment
- Bottling plant
- Machine tool

Benefits of Sx2000 IP66 Drive

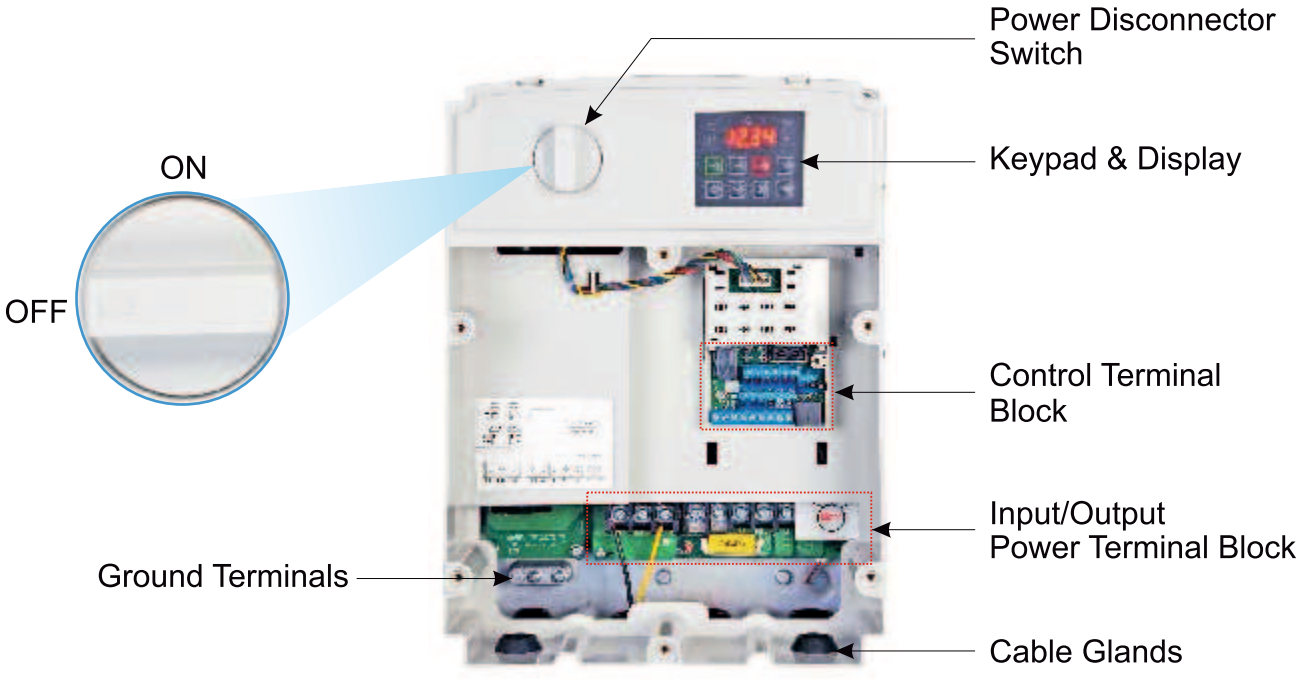
- Longer life
- No enclosure required
- Inbuilt power disconnector switch
- Reduced cost of drive to motor cable
- Reduced electrical losses resulted due to longer cable lengths
- Front access to keypad saves cost of display extension accessories

Technical Specifications

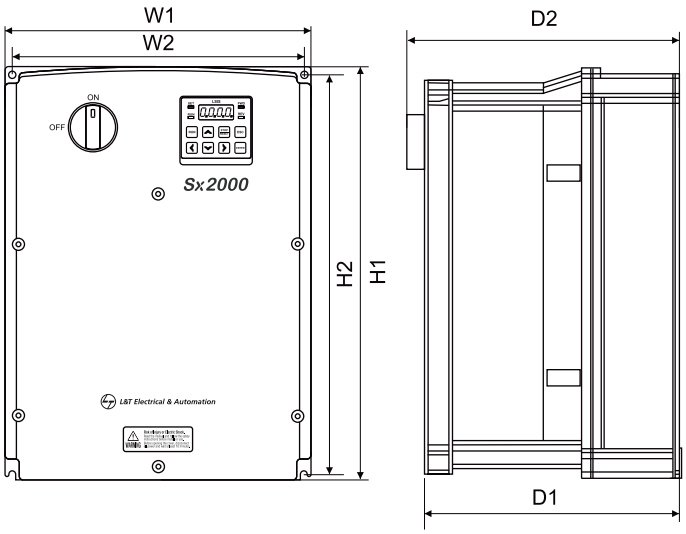
LTVF- S4 □□□□ XAA			0001	0003	0004	0006	0009	0012	0016	0024	0030	0039	0045
Applied Motor (HD)		HP	0.5	1.0	2.0	3.0	5.5	7.5	10	15	20	25	30
		kW	0.4	0.75	1.5	2.2	4.0	5.5	7.5	11	15	18.5	22
Rated Output	Rated capacity (kVA)	HD	1.0	1.9	3.0	4.2	6.5	9.1	12.2	18.3	22.9	29.7	34.3
	Rated current (A)	HD	1.3	2.5	4.0	5.5	9.0	12.0	16.0	24.0	30.0	39.0	45.0
Rated Input	Rated current (A)	HD	1.1	2.4	4.2	5.9	9.8	12.9	17.5	26.5	33.4	43.6	50.7
Standard Specifications	Overload Capacity	150% for 1 min & 200% for 1 second											
	Max Output Voltage	Proportional to Input voltage											
	Max Output Frequency	0 to 400Hz (Sensorless: 0 to 120Hz)											
	Rated Voltage	380 to 480V three-phase (-15%/+10%)											
	Rated Frequency	50/60Hz (-5%/+5%)											
	Keypad	Built-in LED											
	Braking Chopper	Built-in											
Control Details	Control Method	V/F, Sensorless vector control, Slip compensation											
	Starting Torque	200% at 0.5Hz for sensorless control & 150% at 3 Hz for V/F											
	Torque Boost	Manual torque boost, Automatic torque boost											
	Frequqncy Accuracy	1% of maximum output frequency											
	Frequency Control Range	0.01 to 400Hz for V/F, 0 to 120Hz for sensorless vector control											
	Frequency Setting	Analog type: -10 to 10V, 0 to 10V, 4 to 20mA Digital type: keypad, Pulse train input											
	Output Frequency Resolution	0.01Hz											
	V/F Pattern	Linear, squared, user V/F											
	Accel/Decel Time	0.0 to 6000 Sec											
	Braking Torque	Continuous regeneration torque 20% (150% with DBR)											
	Features	Multi keypad, Peer to peer communication to share I/O's, User sequence, Built-in PID, Component Life monitor, No motor detection, Auto tuning, Brake control, KEB, Flying start, Safety function											
Protection	Faults	Over current trip, External signal trip, ARM short circuit current trip, Over heat trip, Ground trip, Motor over heat trip, I/O board link trip, No motor trip, Parameter writing trip, Emergency stop trip, Command loss trip, CPU watchdog trip, Motor normal load trip, Over voltage trip, Temperature sensor trip, Inverter over heat, Option trip, Output imaging trip, Inverter overload trip, Fan trip, Pre-PID operation failure, External break trip, Low voltage trip during operation, Low voltage trip, Safety A (B) trip, Analog input error, Motor overload trip											
	Alarm	Command loss trip alarm, Overload alarm, Normal load alarm, Inverter overload alarm, Fan operation alarm, Resistance braking rate alarm, Number of corrections on rotor tuning error											
	Instantaneous Interruption	Heavy load less than15 ms: continue operation (must be within the rated input voltage and rated output range) Heavy load more than 15 ms: auto restart operation											
Interface	DI	5 (Programmable NPN/PNP)											
	DO	1 (Programmable NO/NC) + 1 TR											
	AI	1 Nos: 0 to 10V & 1 Nos: 0 to 10V / 4 to 20mA											
	AO	1Nos: 0 to 20mA / 0 to 10V											
	Pulse Train	1 I/P & 1 O/P (0 to 32Khz)											
	Built-in PID	1											
	Safety I/P	2 (SA &SB) complying with EN ISO 13849-1 & EN61508SIL2											
	Communication	Built-in RS485 Modbus RTU											
Option	Expansion Card	3DI (PNP / NPN), 2DO (R), 2AI (-10 to 10V), (0 to 10V / 0 to 20mA), 1AO (0 to 10V / 0 to 20mA)											
	Communication Card	CANopen, Profibus DP*, Profinet, Modbus TCP / Ethernet IP											
Environment	Cooling type	Forced fan cooling structure											
	Area of Use	Prevent contact with corrosive gases, inflammable gases, oil stains, and other pollutants (Pollution Degree 3 Environment)											
	Enclosure Type	IP66 (NEMA 4X Indoor Only)											
	Ambient Temperature	-10 to 40°C for HD											
	Storage Temperature	-20 to 65°C											
	Application Humidity	Upto 95% of relative humidity (with no dew formation)											
	PCB Protection	Conformal coating complying to IEC 60721-3-3 class 3C3 (avg)											
	Altitude	Below 1000m											
	Vibration	9.8m/sec^2 (<1G)											
	Global Compliance	CE, UL (Plenum Rated), RoHS											

* Profibus DP option is available from 5.5kW to 22kW

Front Cover Removed



Dimensions & Weight



Cat. Nos.	kW (HD)	W1	W2	H1	H2	D1	D2	Wt (kg)
LTVF-S40001XAA	0.4	180	170	256.6	245	174.2	188.2	3.7
LTVF-S40003XAA	0.75	180	170	256.6	245	174.2	188.2	3.7
LTVF-S40004XAA	1.5	220	204	258.8	241	201	215	5.3
LTVF-S40006XAA	2.2	220	204	258.8	241	201	215	5.5
LTVF-S40009XAA	4	220	204	258.8	241	201	215	5.6
LTVF-S40012XAA	5.5	250	232	328	308	227.2	241.2	8.8
LTVF-S40016XAA	7.5	250	232	328	308	227.2	241.2	8.9
LTVF-S40024XAA	11	260	229	399.6	377	245.5	259.6	9.6
LTVF-S40030XAA	15	260	229	399.6	377	245.5	259.6	9.8
LTVF-S40039XAA	18.5	300	270.8	460	436.5	250	264	12.4
LTVF-S40045XAA	22	300	270.8	460	436.5	250	264	12.4

Units: mm

Product improvement is a continuous process. For the latest information and special applications, please contact CIC to reach our nearest branch office.

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L&T Electrical & Automation

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