



PAGE 15-2

- ADXM...BP**
- Rated starter current: 6 to 45A ratings
 - Rated motor power: 2.2 to 22kW at 400VAC
 - Integrated by-pass relay
 - Total protection against over-temperature
 - Acceleration and deceleration time adjustable on front
 - LED indicator of starter status
 - Fixing on 35mm DIN rail.



PAGE 15-3

- ADX...BP**
- For standard duty, starting current 3.5Ie
 - Rated starter current: 22 to 231A ratings
 - Rated motor power: 9.2 to 110kW at 380/415VAC
 - Reduced voltage soft starter with torque control and built-in by-pass contactor
 - Maximum starting current limitation
 - PC remote control supervision
 - Modbus®-RTU and property ASCII communication protocols
 - LCD backlit screen.



PAGE 15-3

- ADX...B**
- For severe duty, starting current 5Ie
 - Rated starter current: 17 to 245A ratings
 - Rated motor power: 7.5 to 132kW at 380/415VAC
 - Reduced voltage soft starter with torque control and built-in by-pass contactor
 - Maximum starting current limitation
 - PC remote control supervision
 - Modbus®-RTU and property ASCII communication protocols
 - LCD backlit screen.

- ◆ 6A to 1200A starter ratings
- ◆ Standard and severe-duty types
- ◆ Internal by-pass contactor up to 245A rating
- ◆ Torque ramp starting
- ◆ Total motor protection incorporated
- ◆ Clock calendar
- ◆ Digital control and adjustment
- ◆ RS232 and RS485 serial ports for remote supervision and control
- ◆ Modbus®-RTU and proprietary ASCII communication protocols.



PAGE 15-3

- ADX**
- For severe duty, starting current 5Ie
 - Rated starter current: 310A to 1200A ratings
 - Rated motor power: 160kW to 630kW at 380/415VAC
 - Reduced voltage soft starter with torque control, predisposed for external by-pass contactor
 - Maximum starting current limitation
 - PC remote control supervision
 - Modbus®-RTU and property ASCII communication protocols
 - LCD backlit screen.



- Wide input voltage range: 208-500VAC 50/60Hz
- No lumps or dip switches
- Alarm and event log
- LCD screen and user-friendly keypad for control parameters and programming in multilanguage
- Standard supplied RS232 and RS485 serial ports
- Internal by-pass contactor up to 245A rating
- Programmable inputs and outputs
- Torque control

Soft starters

ADXM...BP type with integrated by-pass relay	15- 2
ADX...BP type for standard duty with integrated by-pass contactor	15- 3
ADX...B type for severe duty with integrated by-pass contactor	15- 3
ADX... type for severe duty predisposed for external by-pass contactor	15- 3
Remote keypad and accessories	15- 4
Remote control software	15- 5



ADXM...BP type



51 ADXM 06BP
51 ADXM 12BP
51 ADXM 18BP



51 ADXM 25BP
51 ADXM 38BP
51 ADXM 45BP

Order code	Rated starter power Ie [A]	Rated motor power [kW]	Qty per pkg n°	Wt [kg]
------------	----------------------------	------------------------	----------------	---------

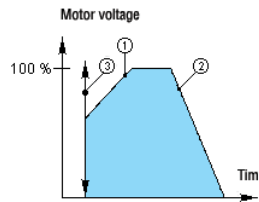
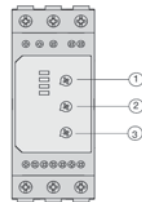
With integrated by-pass relay.
Three-phase 400VAC motor control.

51 ADXM 06BP	6	2.2	1	0.580
51 ADXM 12BP	12	5.5	1	0.580
51 ADXM 18BP	18	7.5	1	0.580
51 ADXM 25BP	25	11	1	0.800
51 ADXM 38BP	38	18,5	1	0.800
51 ADXM 45BP	45	22	1	0.800

With integrated by-pass relay.
Three-phase 220VAC motor control.

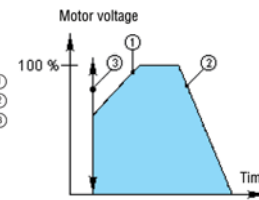
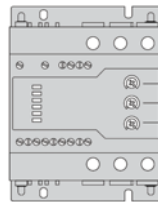
51 ADXM 06BP A220	6	1.1	1	0.580
51 ADXM 12BP A220	12	3	1	0.580
51 ADXM 18BP A220	18	4	1	0.580
51 ADXM 25BP A220	25	5.5	1	0.800
51 ADXM 38BP A220	38	11	1	0.800
51 ADXM 45BP A220	45	11	1	0.800

ADXM 06/12/18BP ADJUSTMENTS



- ① Ramp-up time 0.5 to 10s. Time from zero to full load voltage.
- ② Ramp-down time 0.5 to 20s. Time from full load voltage to zero.
- ③ Initial torque 0 to 85% of voltage at the beginning of the ramp-up function.

ADXM 25/38/45BP ADJUSTMENTS



- ① Ramp-up time 1 to 10s. Time from zero to full load voltage.
- ② Ramp-down time 1 to 30s. Time from full load voltage to zero.
- ③ Initial torque 0 to 70% of voltage at the beginning of the ramp-up function.

General characteristics

ADXM...BP is a compact type of soft starter, for motors up to 22kW at 400VAC, 11kW at 220VAC. ADXM soft starts and soft stops three-phase induction motors with rated load currents up to 45A. Starting and stopping times as well as initial torque can be independently adjusted by built-in potentiometers. ADXM...BP reduces the mechanical load on motors, shafts, gearboxes and drive belts.

Main features are:

- For three phase induction motors up to 22kW at 400VAC, 11kW at 220VAC
- 35mm DIN (IEC/EN 60715) rail mounting
- Integrated by-pass relay
- Full protection against overtemperature (ADXM 25/38/45BP)
- Simple setting and installation
- Ideal for conveyor belts, compressors, pumps, hoisting devices, blowers, fans, mixers.

Operational characteristics

- Number of controlled phases: 2
- Controlled input voltage L1-L2.L3:
 - 400VAC -15 +10% (ADXM...BP) ①
 - 220VAC -15 +10% (ADXM...BP A220)
- Frequency range: 50/60Hz ±10Hz
- Auxiliary supply voltage:
 - A1-A2 - 24-110VAC/DC ±15% (ADXM 06/12/18BP...)
 - A1-A3 - 110-480VAC ±15% (ADXM 06/12/18BP...)
 - A1-A2 - 24-550VAC/DC ±15% (ADXM 25/38/45BP...)
- Start time adjustment (ramp up):
 - 0.5 to 10s (ADXM 06/12/18BP...)
 - 1 to 10s (ADXM 25/38/45BP...)
- Stop time adjustment (ramp down):
 - 0.5 to 20s (ADXM 06/12/18BP...)
 - 1 to 30s (ADXM 25/38/45BP...)
- Start torque adjustment (initial torque):
 - 0-85% voltage (ADXM 06/12/18BP...)
 - 0-70% voltage (ADXM 25/38/45BP...)
- Degree of protection: IP20
- LED indicators:

	ADXM 06/12/18BP	LED
Power on	Green LED	POWER ON
Ramp up/down	Yellow LED (constantly on)	RAMPING
By-pass relay	Yellow LED (constantly on)	BYPASS

	ADXM 25/38/45BP	LED
Power on	Green LED	POWER ON
Ramp up/down	Yellow LED (flashing)	RAMPING
By-pass relay	Yellow LED (constantly on)	BYPASS
Overtemperature inside starter	Red LED (flashing)	OVERHEAT
Overtemperature in motor (PTC)	Red LED (constantly on)	
Phase failure/loss②	Red LED (flashing)	WRONG SEQ
Wrong phase sequence②	Red LED (fast flashing)	PHASE LOSS
Voltage too low	Red LED (slow flashing)	

① 480VAC or 600VAC version available on request. Contact our Customer Service (Tel. +39 035 4282422; email: service@LovatoElectric.com).

② These protections are active at power on only.

Certifications and compliance

Certifications obtained: cULus and GOST
Compliant to standards: IEC/EN 60947-1, IEC/EN 60947-4-2, UL508, CSA C22-2 n° 14.

ADX type



51 ADX 0022BP - 51 ADX 0048BP
51 ADX 0017B - 51 ADX 0045B



51 ADX 0058BP - 51 ADX 0092BP
51 ADX 0060B - 51 ADX 0085B



51 ADX 0114BP - 51 ADX 0126BP
51 ADX 0110B - 51 ADX 0125B

Order code	Rated starter current I _e	Rated motor power (380/415V)	Qty per pkg	Wt
	[A]	[kW]	n°	[kg]

For standard duty (starting current 3.5•I_e).
With integrated by-pass contactor.

51 ADX 0022BP	22	9.2	1	7.900
51 ADX 0034BP	34	15	1	8.000
51 ADX 0048BP	48	22	1	8.300
51 ADX 0058BP	58	26	1	14.900
51 ADX 0068BP	68	30	1	14.900
51 ADX 0082BP	82	37	1	14.900
51 ADX 0092BP	92	45	1	15.700
51 ADX 0114BP	114	55	1	15.700
51 ADX 0126BP	126	63	1	28.000
51 ADX 0150BP	150	75	1	36.000
51 ADX 0196BP	196	92	1	36.000
51 ADX 0231BP	231	110	1	36.000

For severe duty (starting current 5•I_e).
With integrated by-pass contactor.

51 ADX 0017B	17	7.5	1	7.900
51 ADX 0030B	30	15	1	8.000
51 ADX 0045B	45	22	1	8.300
51 ADX 0060B	60	30	1	14.900
51 ADX 0075B	75	37	1	14.900
51 ADX 0085B	85	45	1	14.900
51 ADX 0110B	110	55	1	15.700
51 ADX 0125B	125	59	1	15.700
51 ADX 0142B	142	75	1	34.000
51 ADX 0190B	190	90	1	37.000
51 ADX 0245B	245	132	1	37.000

For severe duty (starting current 5•I_e).
Predisposed for external by-pass contactor.

51 ADX 0310	310	160	1	50.000
51 ADX 0365	365	200	1	50.000
51 ADX 0470	470	250	1	90.000
51 ADX 0568	568	315	1	90.000
51 ADX 0640	640	355	1	110.000
51 ADX 0820	820	440	1	170.000
51 ADX 1200	1200	630	1	185.000

General characteristics

ADX is a reduced voltage soft starter with torque control and maximum starting current limit. It is used for the progressive starting and stopping of asynchronous three-phase squirrel-cage motors.

The integrated by-pass contactor ADX...BP or ADX...B types only, drastically limits dissipation, as a result equipment for electric panel cooling ventilation can be eliminated and the enclosure size can be reduced as well.

CONTROL

During starting: Torque control acceleration, current limit control and booster.

During stopping: Torque control deceleration, dynamic braking and free-wheel.

In emergency conditions: Starting without protections, direct-on-line starting using integrated by-pass contactor.

Remote control: PC supervision by connection with RS232/RS485 converter, modem or GSM modem. Automatic call function (Autocall) in case of alarm conditions by sending a message to a cellular phone (SMS-Short Message Service) and/or to a mailbox. Property ASCII and Modbus®-RTU communication protocols.

KEYPAD OPERATIONS

- Liquid-crystal backlit 2-line 16-character display
- Multilanguage capability (Italian, English, French, Spanish)
- Basic, advanced and function programming menus
- Keypad stop and start
- Motor and mains parameter readings:
 - line voltage values (L-L)
 - phase current
 - active and apparent power values per phase
 - power factor per phase
 - kWh
- Time sequential events log
- Clock calendar with backup battery.

PARTICULAR FUNCTIONS

Digital inputs and programmable relay outputs. Analog input (0...10V, 0...20mA or 4...20mA) for ramp acceleration and/or deceleration, motor starting and stopping control thresholds, programmable relay enable and disable control thresholds. Analog output (0...10V, 0...20mA or 4...20mA) for current, torque, motor thermal status and power factor readings. Input programming for second motor.

PROTECTIONS

- Motor: Dual thermal protection class (one during starting phase and the other during running) or by PTC sensor, locked rotor, current asymmetry, minimum torque and starting time too long
- Auxiliary voltage: Voltage value too low
- Power voltage: Phase failure, phase sequence and frequency out of limits
- Control inputs and analog output: Static 24VDC short-circuit protection with automatic resetting.
- Starter: Overcurrent, high temperature, SCR and by-pass contactor malfunction.

Operational characteristics

- Input voltage:
 - 208-500VAC ±10% for ADX...BP and ADX...B①
 - 208-415VAC ±10% for ADX...B②
- Mains frequency: 50-60Hz ±5%
- Auxiliary supply voltage: 208-240VAC ±10%
- Auxiliary consumption: 20VA
- Rated starter current I_e:
 - 22-231A for ADX...BP
 - 17-245A for ADX...B
 - 310-1200A for ADX...
- Motor current: 0.5-1 I_e
- Overload current:
 - 105% I_e continuous for ADX...BP and ADX...B
 - 115% I_e continuous for ADX...

Certifications and compliance

Certifications obtained: GOST for all; CCC for ADX 0110B and ADX 0125B types only.

Compliant with standard: IEC/EN 60947-1, IEC/EN 60947-4-2.

① 208-600VAC ±10% on request.

② Voltages on request: higher than 415V to 690V maximum.

Remote keypad for ADX... types



51 ADX TAST

Accessories for ADX... types



51C4



4PX1

Order code	Description	Qty per pkg	Wt
		n°	[kg]
51 ADX TAST	Remote keypad 96x96mm, 2x16 backlit LCD, 208-240VAC supply c/w 3m long connecting cable	1	0.350
51 C2	PC ↔ ADX connecting cable, 1.8m long	1	0.090
51 C3	PC ↔ GSM modem connecting cable, 1.8m long ^①	1	0.210
51 C4	PC ↔ 4 PX1 converter drive connecting cable, 1.8m long	1	0.147
51 C5	ADX ↔ Analog modem connecting cable, 1.8m long ^②	1	0.111
51 C6	ADX ↔ 4 PX1 converter drive connecting cable, 1.8m long	1	0.102
51 C7	ADX ↔ GSM modem "FUNK-ANLAGEN" ^① connecting cable, 1.8m long	1	0.101
51 C8	ADX ↔ remote keypad connecting cable, 3m long	1	0.081
4 PX1	RS232/RS485 converter drive, opto-isolated, 220-240VAC ^③	1	0.600
31 PA 96X96	Protective cover (IP54)	1	0.077

^① "FUNK-ANLAGEN" GSM modem, model n° FALCOM A2-1 or FALCOM A2D-1 or FALCOM TANGO 900/1800, compatible with LOVATO ELECTRIC remote control software.

^② "3Com-U.S. Robotics" 56k V.92, FAXMODEM model 5630, with RS232 interface, complete with PC connecting cable, compatible with LOVATO ELECTRIC remote control software.

^③ RS232/RS485 opto-isolated converter drive, 38,400 Baud-rate maximum, automatic or manual TRANSMIT line supervision, 220...240VAC ±10% supply (110-120VAC available on request).

General characteristics

The flush-mount ADX TAST remote keypad is identical to the one on board the soft starter except for the start and stop controls of the motor, which are permanently disabled. With this keypad, starter setup can be conducted, motor readings and operating data displayed and data and parameter transfer (ADX ↔ remote keypad) made, as well.

A backup copy of the starter data and parameter setup is obtainable with the transfer functions. In this way, quick and easy setup operations can be done especially with machines assembled in series.

The baud transmission rate, the contrast and backlight can also be adjusted by this keypad.

It is supplied standard with a 3 metre long cable and suitable connectors to complete the link to the ADX RS485 port. The three terminals of the keypad supply are removable.

For longer distances, this keypad can be connected to the ADX RS232 port via RS232/RS485 converter.

Advantages

- Flush mount
- Messages in selectable language
- Readings display
- Parameter setup
- Two-way data and parameter transfer.

Operational characteristics

- Auxiliary supply voltage: 208-240VAC ±10%
- Power consumption: 6.9VA
- Dissipation: 3.2W
- Mains frequency: 50/60Hz
- RS-485 port: RJ 4/4 connector
- Supply: Removable 3-pole 2.5 mm² terminal block.
- Display: 2 line, 16 character backlit LCD
- LED indication (3): POWER, RUN and FAULT
- Keys (6) ENTER/START, RESET/STOP, ←PREVIOUS, NEXT→, ▼ and ▲
- Ambient condition
 - Operating temperature: -10...+60°C
 - Storage temperature: -20...+70°C
- Flush mount enclosure
- Degree of protection on front: IP41; IP54 with protective cover.

Certifications

Certifications obtained: GOST.

Remote control software for ADX... types



51 ADX SW

Order code	Description	Qty per pkg	Wt
		n°	[kg]
51 ADX SW	PC-ADX remote control software with proprietary ASCII and Modbus® RTU protocols and a set of connecting cables 51 C2, 51 C3, 51 C5, 51 C7 for communications via RS232 port, analog or GSM modem	1	0.550

The remote control software consents to the PC supervision of all ADX soft starter functions, including: parameter set-up, real-time readout display, graphics of monitored parameter data during operation and starter events log display, each with time and date entry.

The PC-ADX connection is made by cable via the RS232 port, RS232/RS485 converter, analog or GSM modem.

The RS232 port is not suitable for permanent connections.

The connection via modem permits the ADX starter to advise alarm conditions, that is an automatic link to the remote PC. GSM modem represents the ultimate solution for unmanned applications or where there are no telephone lines.

Interesting communications features are available with this type of modem, such as:

- SMS (Short Message Service): At alarm conditions, the ADX can send its ID and alarm code, with time and date entry. The advantage is the possibility of reaching service people, without delay, wherever they are located.
- E-mail (via Internet): a message with the same structure as mentioned above can be transmitted to a specified mailbox. The advantages of this type of message with respect to the SMS are that any communication, received through Internet mail server, is permanent and an vast number of these can be received and reviewed at any time.

General characteristics

- Display of all the monitored data by the ADX starter
- Virtual ADX keypad with access to all functions
- Parameter adjustment, only accessible with password, saving on disc and subsequent reloading on ADX starter
- Display of starter events log, showing time and date entry
- Graphics display of monitored data during operation
- Connection through RS232/RS485 converter or modem
- GSM-modem management with SMS or e-mail transmission
- AUTOCALL function for automatic PC call
- Program configuration in 4 languages (Italian, English, Spanish and French)
- Easy installation and set-up.

Advantages

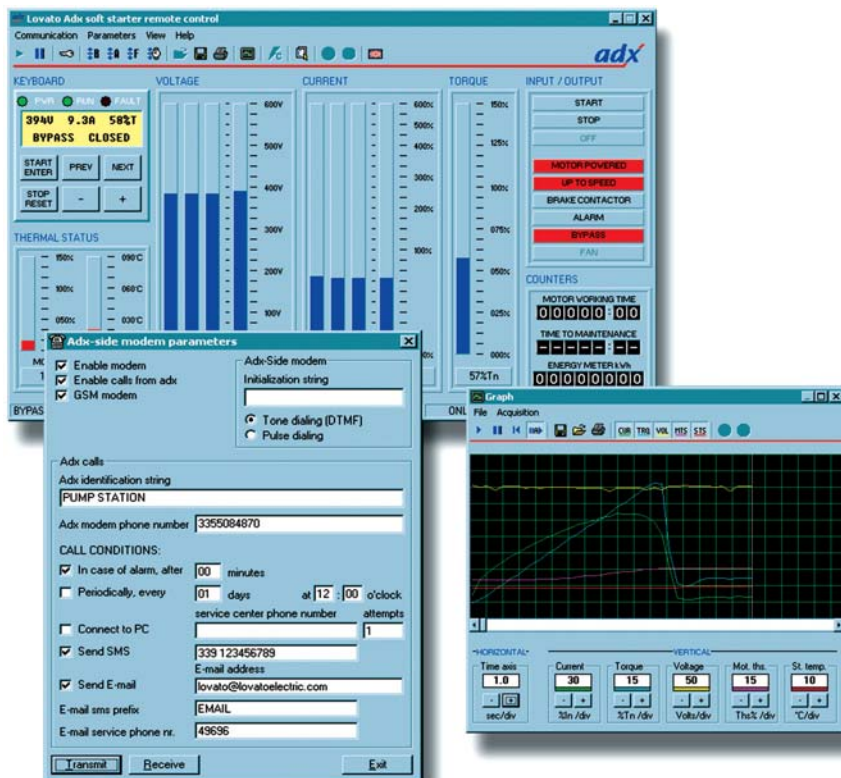
- GSM network management for inaccessible applications where there are no telephone lines
- Call management during alarm conditions for SMS or e-mail transmission
- No limit for remote control distance
- Possibility of remote motor starting
- Reduction of service time
- Reduction of maintenance and downtime.

Operational characteristics

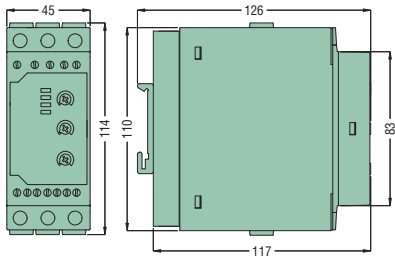
Minimum hardware requirements of the personal computer:

- Windows 95/98 operating system
- Pentium 100MHz or faster processor
- At least 16MB of free RAM
- About 4MB of free hard disk memory
- Graphic card having at least 800x600 resolution
- One free serial interface port
- CD-ROM drive.

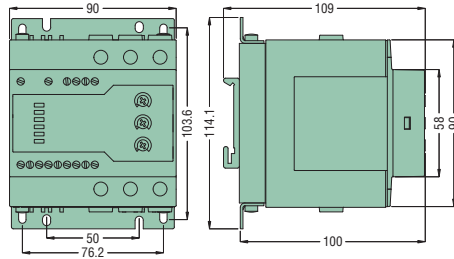
Example of main window frame using 51 ADX SW remote control software



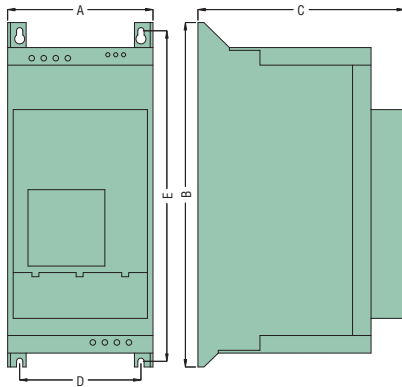
ADXM 06BP - ADXM 18BP



ADXM 25BP - ADXM 45BP

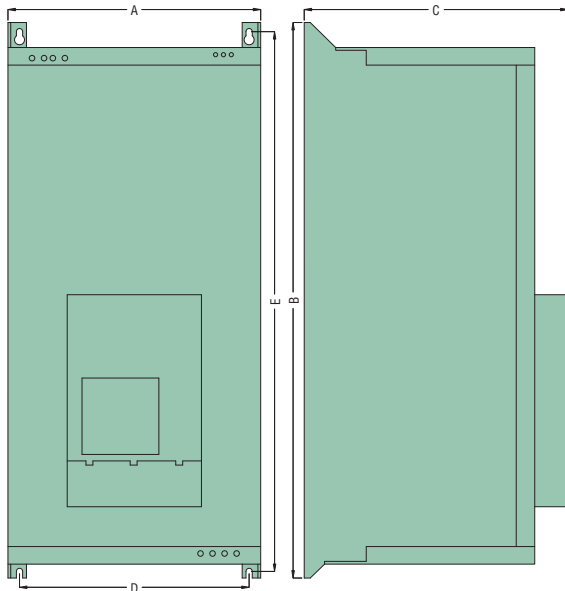


ADX 0022BP - ADX 0126BP
ADX 0017 B - ADX 0125 B



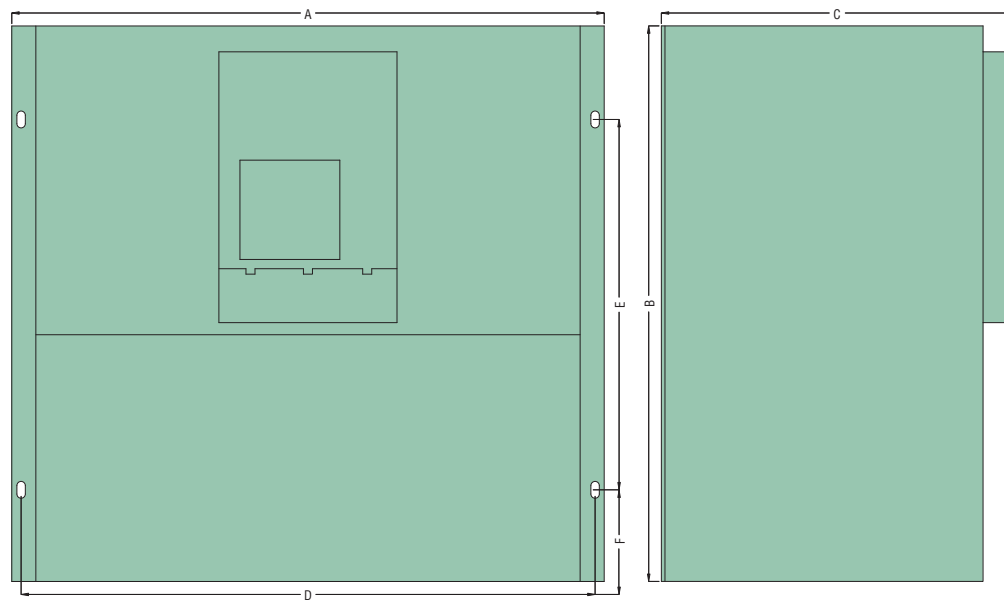
TYPE	A	B	C	D	E
ADX 0022BP	157	372	223	131	357
ADX 0034BP	157	372	223	131	357
ADX 0048BP	157	372	223	131	357
ADX 0058BP	157	534	250	132	517
ADX 0068BP	157	534	250	132	517
ADX 0082BP	157	534	250	132	517
ADX 0092BP	157	534	250	132	517
ADX 0114BP	157	584	250	132	567
ADX 0126BP	157	584	250	132	567
ADX 0017B	157	372	223	131	357
ADX 0030B	157	372	223	131	357
ADX 0045B	157	372	223	131	357
ADX 0060B	157	534	250	132	517
ADX 0075B	157	534	250	132	517
ADX 0085B	157	534	250	132	517
ADX 0110B	157	584	250	132	567
ADX 0125B	157	584	250	132	567

ADX 0150BP - ADX 0231BP
ADX 0142 B - ADX 0245 B



TYPE	A	B	C	D	E
ADX 0150BP	273	600	285	230	640
ADX 0196BP	273	680	310	230	640
ADX 0231BP	273	680	310	230	640
ADX 0142B	273	600	285	230	560
ADX 0190B	273	680	310	230	640
ADX 0245B	273	680	310	230	640

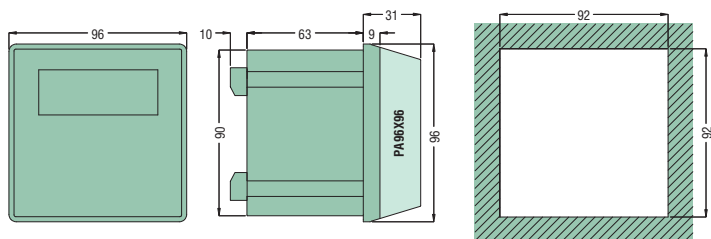
ADX 0310 - ADX 1200



TYPE	A	B	C	D	E	F
ADX 0310	640	600	380	620	400	100
ADX 0365	640	600	380	620	400	100
ADX 0470	790	650	430	770	450	100
ADX 0568	790	650	430	770	450	100
ADX 0640	790	650	430	770	450	100
ADX 0820	910	950	442	830	920	ⓘ
ADX 1200	910	950	442	830	920	ⓘ

ⓘ Consult our Customer Service (Tel. +39 035 4282422; e-mail: service@LovatoElectric.com)

ADX TAST



Operational characteristics

TYPE		ADXM 06/12/18BP (with integrated by-pass relay)	ADXM 25/38/45BP (with integrated by-pass relay)
Motor	Type	Asynchronous three phase	
	Power	2.2kW 3-phase (ADXM 06BP) 5.5kW 3-phase (ADXM 12BP) 7.5kW 3-phase (ADXM 18BP) 1.1kW 3-phase (ADXM 06BP A220) 3kW 3-phase (ADXM 12BP A220) 4kW 3-phase (ADXM 18BP A220)	11kW 3-phase (ADXM25BP) 18.5kW 3-phase (ADXM38BP) 22kW 3-phase (ADXM45BP) 5.5kW 3-phase (ADXM 25BP A220) 11kW 3-phase (ADXM 38BP A220) 11kW 3-phase (ADXM 45BP A220)
	Rated current	6A (ADXM 06BP...) 12A (ADXM 12BP...) 18A (ADXM 18BP...)	25A for ADXM25BP 35A for ADXM38BP 45A for ADXM43BP
Supply voltage	Power circuit	400VAC -15% +10% ADXM...BP) 220VAC -15 +10% (ADXM...BP A220)	
	Auxiliary	A1-A2: 110VAC/DC ±15% (1-5mA) A1-A3: 110-480VAC ±15% (1-5mA)	A1-A2: 24-550VAC/DC ±15% (1.5mA)
	Frequency	50 or 60Hz ±10% self-configurable	
Starting method		Voltage control	
Stopping method		Voltage control	
Number of controlled phases		2	
Protections	Motor	—	High temperature
Indications	Power on	Green LED	
	Ramp up/down	Yellow LED (constantly on)	Yellow LED (flashing)
	By-pass relay	Yellow LED (constantly on)	
	Overtemperature inside starter	—	Red LED (flashing)
	Overtemperature motor (PTC sensor)	—	Red LED (constantly on)
	Wrong phase sequence	—	Red LED (flashing)
	Phase failure/loss	—	Red LED (flashing)
	Voltage too low	—	Red LED (flashing)
Cooling system		Natural	
AUXILIARY VOLTAGE CONNECTIONS			
Type of terminal		Screw (fixed)	
Conductor section min-max		0.5-1.5mm ² (22-12AWG)	0.75-2.5mm ² (22-14AWG)
Tightening torque maximum		0.5Nm (4.5lbin) with Phillips bit 0	0.3...0.5Nm (2.7...4.5lbin) with Phillips bit 0
INPUT VOLTAGE CONTROL CONNECTIONS			
Type of terminal		Screw (fixed)	
Conductor section min-max		2.5-10mm ² (14-8AWG)	0.75-16mm ² (14-4AWG)
Tightening torque		2.5Nm (22lbin) with Pozidrive bit 2	1.5...2.5Nm (13...22lbin) with Pozidrive bit 2
AMBIENT CONDITIONS			
Operating temperature		-20...+60°C	
Storage temperature		-50...+85°C	
Relative humidity		≤95% without condensation	
Pollution degree (maximum)		3	
Over-voltage category		3	
Altitude		Up to 1000m with no derating; higher up, derate starter current value 1% every 100m. 2000m maximum	
HOUSING			
Mounting		35mm DIN rail (IEC/EN 60715)	

Operational characteristics

TIPO		ADX...BP - ADX...B (with integrated by-pass contactor)	ADX... (to complete with external by-pass contactor)
Motor	Type	Asynchronous three phase	
	Power	9.2-110kW (ADX...BP) 7.5-132kW (ADX...B)	160-630kW
	Rated current	22-231 (ADX...BP) 17-245A (ADX...B)	310-1200A
Supply voltage	Power circuit	208 - 500VAC ±10% standard (208-575VAC ±10% on request)	208 - 415VAC ±10% standard Other voltages up to 690VAC maximum on request)
	Rated supply voltage	208 - 240VAC ±10%	
	Frequency	50 or 60Hz ±5% self configurable	
Starting		Torque ramp with maximum current control	
Stopping		Free wheel or torque ramp deceleration	
Braking		DC dynamic by external contactor	
Protections	Auxiliary supply	Voltage too low	
	Power supply	Phase failure, frequency out of limits, minimum and maximum voltage and phase sequence, 24VDC static short circuit	
	Motor	Overload at starting (trip class 2, 10A, 10, 15, 20, 25, 30, 35 and 40), overload during running (trip class 2, 10A, 10, 15, 20 25 and 30), locked rotor, current asymmetry, minimum torque and maximum starting time	
	Starter	Overcurrent and high temperature	
	Analog inputs and outputs	24VDC static short circuit	
Functions	Clock calendar	With back-up battery	
	Event log	20 event registrations in date and time sequential order	
	Operating data memory	Hour counter, one each for energy usage, number of startings, motor running and maintenance expiry	
	Multilanguage capability	Italian / English / Spanish / French	
Setup configuration		By incorporated or remote keypad or PC	
Keyboard	Display and LED indicators	LCD, 2 line x 16 character, backlight, POWER, RUN, FAULT	
	Membrane keys	ENTER/START, RESET/STOP, PREVIOUS, NEXT, ▲ and ▼	
	Setup parameters	Adjustment menus: basic, advanced, functions, clock and controls	
	Readings display	Voltage, current, power factor (cosφ), torque, power (kVA, kW, kvar) and energy usage	
	Graphic display	Current and torque	
Control inputs	Display	Operating status, events, alarms, event log, data	
	Voltage	24VDC (no need for external feeder)	
	Fixed functions	2 for starting and stopping/reset	
Multifunction input (digital functions)		Free-wheel stopping, external alarm, motor preheat, on board control, alarm inhibition, thermal protection manual reset, cascade starting and keypad lock	
	Multifunction input (analog functions)	Motor protection via PTC probes, acceleration and/or deceleration ramp via analog input, analog input thresholds for motor starting and stopping, analog input thresholds for programmable relay enable and disable, PT100 input thresholds for motor starting and stopping and PT100 input thresholds for programmable relay enable and disable	
Relay outputs	Voltage and capacity	250VAC 5A (AC1)	
	Fixed functions	1 with 1 NO + 1NC contacts for overall alarm	
	Programmable functions	3 each with 1 NO contact for running motor, motor starting, braking, current tripping threshold, maintenance expiry, etc.	
Analog output	Format configuration	0-20mA, 4-20mA or 0-10V	
	Associated source	Current, torque, motor thermal status and power factor	
Communications interface	RS232 port	Setup and remote control	
	RS485 port	Used for remote keypad only	
Degree of protection		IP00 ^①	
Cooling system	Natural	22-48A (ADX...BP); 17-45A (ADX...B)	—
	Forced	58-231A (ADX...BP); 60-245A (ADX...B)	All types
Operating temperature		-10...+45°C (higher up to maximum 55°C with derating)	
Storage temperature		-30...+70°C	
Maximum altitude		1000m	
Maximum pollution degree		3	
Operating position		Vertical ±15°	

^① IP20 for ADX0022BP to ADX0126BP and ADX0017B to ADX0125B only.