AST6200 SERIES

INOMAX

AST6200

Soft starting.
Motor protection.

Online intelligent soft starters

3 starting modes

4 voltage classes

RS485 / Modbus RTU



PRODUCT CATALOG

www.inomaxtechnology.com

Built for controlled starts.

Your guide to AST6200 online motor starting, protection and integration.



COMPANY, PRODUCT & PERFORMANCE

About INOMAX 02
AST6200 at a glance 03
Product design and online operation 04
Starting modes and adjustments 05
Soft stopping for pump systems 06
Operation panel and live feedback 07

TECHNICAL DATA & INTEGRATION

Motor and system protection 08
Modbus RTU and control interfaces 09
Power circuit and control wiring 10
Technical data 11
Model selection | S2 / S4 / S6 / S11 12-15
Dimensions and mounting 16

APPLICATION & SELECTION

Industrial applications 17
Installation and selection guide 18

About INOMAX.

Variable Frequency Drives / Solar Pump Inverters / Soft Starters



2016
YEAR ESTABLISHED

30,000
m² FACTORY AREA

208
EMPLOYEES

26
R&D ENGINEERS

20,000+
PCS / ANNUAL OUTPUT

Founded in 2016, Shenzhen Inomax technology Co.,Ltd is a professional manufacturer of Variable Frequency Drives (VFDs), Solar Pump Inverters and Soft Starters, providing reliable and high-performance drive solutions for industrial automation, water pumping, machinery, steel, mining, marine, cranes, oil & gas, test benches and other demanding applications worldwide.

With strong engineering, customization and project support capabilities, INOMAX works closely with distributors, system integrators, OEMs and industrial customers across global markets.

Our products and solutions have been applied in projects involving leading industrial companies and organizations, including CRCC, CRRC, NLMK, SANY, Shougang Group, SIEMAG TECBERG, XCMG, ZPMC, CNPC, Sinopec, Ansteel, China Baowu, AVL and ZF, among others.

INOMAX — Built on Technology. Proven by Applications. Driven by Partnership.



Research & Development



Production & Assembly



Testing & Inspection

Confidence from the start.

Digital motor starting, configurable protection and straightforward control.



10-1600 A

Rated current

220-1140 V

AC voltage range

3 modes

Selectable starting

AST6200 is an intelligent online soft starter for three-phase squirrel-cage asynchronous motors. Select voltage ramp, current limit or torque starting to match the motor and application.

Local keypad, external terminals and Modbus RTU provide flexible control. Integrated monitoring keeps current, voltage and operating status available to operators and automation systems.

Power by voltage class: S2 5.5-400 kW; S4 7.5-800 kW; S6 7.5-1400 kW; S11 15-800 kW. Select against motor nameplate current and starting duty.

Online design. Clear access.

A digital control platform with an accessible LCD panel and power terminals.

01 Power connections

Top input and bottom motor connections keep the power path easy to identify.



03 LCD operation

Chinese / English display with a removable operation panel.

02 Forced-air cooling

Maintain the airflow path when integrating the unit into a control cabinet.

04 Control terminals

Remote commands, relay outputs, 4-20 mA and RS485 interfaces.

ONLINE THYRISTOR CONTROL

The standard main circuit uses anti-parallel thyristors in all three phases. Online operation keeps motor control and protection within the AST6200 power path.

THREE-PHASE POWER PATH



Functional overview; see the main circuit on page 10.

Start with control.

Choose a starting mode, then tune the ramp and current to the load.



01 Voltage ramp start

Raise the motor voltage progressively. Adjust initial voltage and ramp time to the application.

30-80% Initial voltage

02 Current limit start

Set the current limit to manage motor acceleration and electrical demand during starting.

03 Torque start

A selectable torque starting mode provides another way to match the starting behavior to the load.

SETTING	RANGE	PARAMETER
Starting current limit	50-600%	A02
Starting voltage	30-80%	A03
Starting time	1-120 s	A04
Stay voltage / time	60-85% / 1-120 s	A05 / A07
Early / end ramp time	1-10 s / 1-10 s	A06 / A08

A setpoint range is not a guaranteed starting capability. Check available torque, supply capacity, starting duration and the motor load before selection.

A smoother stop for pumps.

Controlled deceleration for water supply, circulation and process pumping.



01 Timed soft stop

Adjust the soft stop time to suit the pump and hydraulic system. Review the system response during commissioning.

02 Free stop

Allow the motor to coast when controlled deceleration is not required by the process.

0-60 s

Soft stop time setting

Parameter A09

TUNE FOR THE SYSTEM

Pump inertia, valves, pipework and static head affect stopping behavior. Use a suitable stop profile and verify pressure transients on the installed system.

Typical applications: booster pumps, water transfer, cooling-water circulation and irrigation. Application imagery is illustrative.

Clear feedback. Faster setup.

A removable panel and status information support daily operation and setup.



CHINESE / ENGLISH LCD

Choose the display language with A23. Keypad, external terminals and communication control can be enabled individually or in combination through A00.

KEY	OPERATOR ACTION
MENU / ENTER	Enter menus; confirm settings
ESC	Exit; cancel changes
SHIFT / arrows	Move editing position; adjust values
RUN / STOP	Start; stop or reset
R/L	Enable / disable panel control

LIVE STATUS AT A GLANCE

CURRENT

Average and individual phase currents

VOLTAGE

Input and output voltage

STARTING

Start completion percentage

SUPPLY

Frequency and phase sequence

BALANCE

Three-phase current unbalance

COUNTERS

Running time and number of starts

After a trip, identify and clear the cause before resetting. The SHIFT key accesses the fault record from the main interface.

Protect the motor and system.

Configure thresholds and response settings to match the installation.

01 OVERLOAD

Inverse-time motor overload protection; adjustable class 1-30.

B00

02 OVERCURRENT

Separate starting and running overcurrent settings and delays.

B01-B04

03 VOLTAGE

Adjustable overvoltage and undervoltage thresholds.

B05-B08

04 CURRENT BALANCE

Three-phase current unbalance detection and delay.

B09-B10

05 UNDERLOAD

Adjustable underload level and operating delay.

B11-B12

06 PHASE / TEMPERATURE

Input / output phase loss, phase sequence and starter overheat.

B13 / C07 / C09 / C10

CONFIGURABLE RESPONSE

Group C defines the response for supported protection functions. Check the settings during commissioning: starting overcurrent and underload are set to Ignore in the manual defaults.

Additional diagnostics include external fault and SCR short circuit. The soft starter does not replace the required upstream isolation and short-circuit protection.

Connect to your system.

Standard RS485 / Modbus RTU with remote inputs, relays and analog feedback.

STANDARD

Modbus RTU

RS485 | Half duplex | 8N1



COMMUNICATION	SPECIFICATION
Node address	1-127
Baud rate	2400 / 4800 / 9600 / 19200 bps
Default	9600 bps; 8 data bits; no parity; 1 stop bit
Function codes	03: read register; 06: write one register

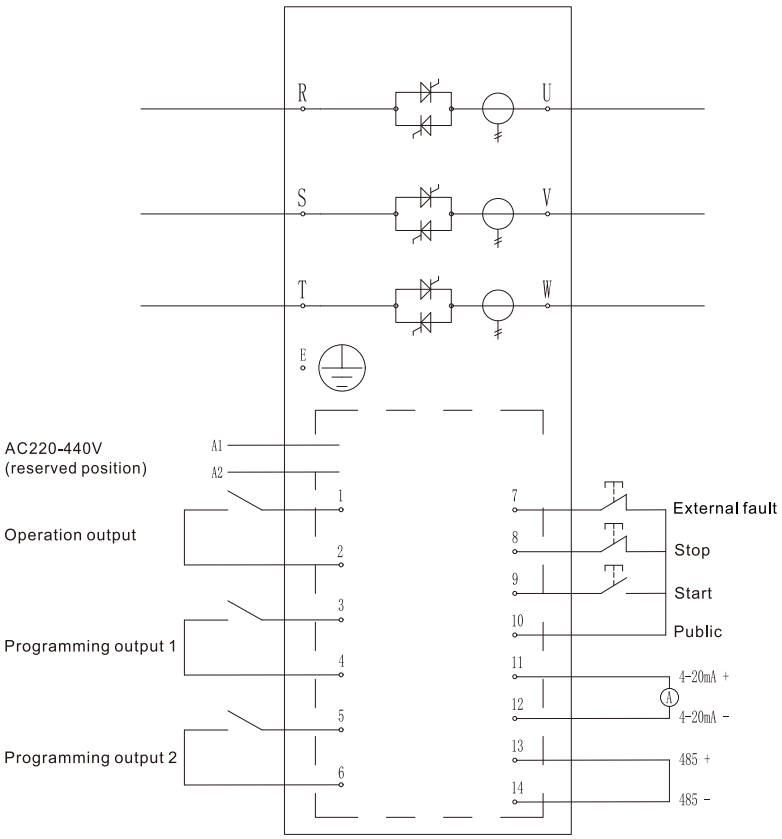
CONTROL & FEEDBACK

INTERFACE	CAPABILITY
Remote input	Start, stop and external fault
Relay outputs	One running relay and two programmable relays
Analog output	4-20 mA; adjustable upper-limit current
Control modes	Keypad, external control, communication or combinations

Programmable relay functions include operation, standby, fault and current arrival. Output delay is adjustable from 0 to 600 s.

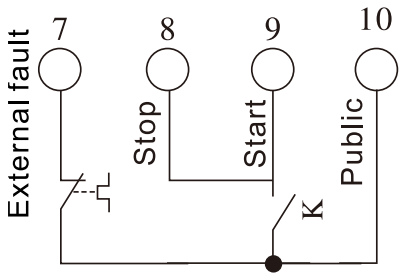
Power and control wiring.

Terminal numbers and circuit arrangement from the AST6200 user manual.



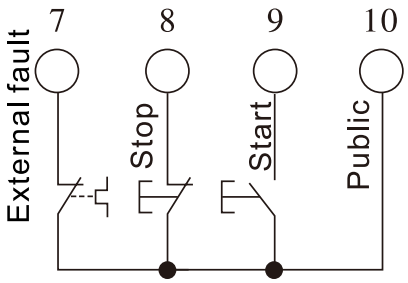
TERMINAL	FUNCTION
R / S / T	Three-phase input
U / V / W	Motor output
1 / 2	Running relay
3 / 4	Programmable relay 1
5 / 6	Programmable relay 2
7	External fault
8 / 9 / 10	Stop / start / common
11 / 12	4-20 mA + / -
13 / 14	RS485 + / -
A1 / A2	Optional AC supply*

TWO-WIRE CONTROL



2-wire mode: start when K is closed
Stop when K is disconnect

THREE-WIRE CONTROL



3-wire mode

Terminal 7 must be connected to common terminal 10 for normal operation. *A1 / A2: optional 220-440 V AC external supply; specify when ordering. Refer to the manual for complete installation requirements.

Technical data.

Core ratings, environmental limits and control settings.

ITEM	SPECIFICATION
Product type	Intelligent online AC motor soft starter
Motor	Three-phase squirrel-cage asynchronous motor
Voltage classes	S2: 220-240 V; S4: 380-480 V; S6: 520-690 V; S11: 1000-1140 V
Rated current range	10-1600 A
Supply frequency	30-70 Hz
Cooling / enclosure	Forced-air cooling / IP20
Ambient temperature	-10 °C to +40 °C
Altitude	Below 2000 m; derating required above 2000 m
Humidity / vibration	<95% RH, non-condensing / <0.5 G
Installation	Indoors, with good ventilation
Starting modes	Voltage ramp / current limit / torque
Starting settings	50-600% current limit; 30-80% initial voltage
Starting / stopping time	1-120 s start; 0-60 s soft stop
Overload protection	Inverse-time; adjustable class 1-30
Control / display	Keypad, terminals, Modbus RTU / Chinese-English LCD
Motor wiring setting	In-line or inside-delta; parameter A18

Starts per hour depend on the load and thermal duty. Keep the installation free of conductive dust and flammable, explosive or corrosive gases.

Select your AST6200.

220-240 V three-phase AC | S2 voltage class

MODEL	POWER (kW)	CURRENT (A)	W × D × H (mm)	GROSS / UNIT (kg)
AST6200-S2-5.5	5.5	23	145 × 214 × 315	5.75
AST6200-S2-7.5	7.5	30	145 × 214 × 315	5.75
AST6200-S2-011	11	45	145 × 214 × 315	5.75
AST6200-S2-015	15	60	145 × 214 × 315	5.75
AST6200-S2-018	18.5	76	145 × 214 × 315	5.75
AST6200-S2-022	22	97	145 × 214 × 315	5.75
AST6200-S2-030	30	105	173 × 218 × 322	8.35
AST6200-S2-037	37	145	173 × 218 × 322	8.35
AST6200-S2-045	45	170	210 × 225 × 360	12
AST6200-S2-055	55	220	210 × 225 × 360	12
AST6200-S2-075	75	255	325 × 260 × 462	26.7
AST6200-S2-090	90	320	325 × 260 × 462	26.7
AST6200-S2-115	115	435	491 × 303 × 560	36.8
AST6200-S2-132	132	500	491 × 303 × 560	38.7
AST6200-S2-160	160	580	491 × 303 × 560	38.7
AST6200-S2-185	185	630	491 × 303 × 560	38.7
AST6200-S2-200	200	700	491 × 303 × 560	38.7
AST6200-S2-220	220	820	684 × 420 × 840	93.6
AST6200-S2-250	250	920	684 × 420 × 840	93.6
AST6200-S2-280	280	1000	684 × 420 × 840	95
AST6200-S2-315	315	1200	684 × 420 × 840	95
AST6200-S2-400	400	1400	684 × 420 × 840	100

Dimensions: width × depth × height. Gross weight is for one individually packed unit.

Select your AST6200.

380-480 V three-phase AC | S4 voltage class

MODEL	POWER (kW)	CURRENT (A)	W × D × H (mm)	GROSS / UNIT (kg)
AST6200-S4-7.5	7.5	17	145 × 214 × 315	5.75
AST6200-S4-011	11	23	145 × 214 × 315	5.75
AST6200-S4-015	15	30	145 × 214 × 315	5.75
AST6200-S4-018	18.5	37	145 × 214 × 315	5.75
AST6200-S4-022	22	45	145 × 214 × 315	5.75
AST6200-S4-030	30	60	145 × 214 × 315	5.75
AST6200-S4-037	37	76	145 × 214 × 315	5.75
AST6200-S4-045	45	97	145 × 214 × 315	5.75
AST6200-S4-055	55	105	173 × 218 × 322	8.35
AST6200-S4-075	75	145	173 × 218 × 322	8.35
AST6200-S4-090	90	170	210 × 225 × 360	12
AST6200-S4-115	115	220	210 × 225 × 360	12
AST6200-S4-132	132	255	325 × 260 × 462	26.7
AST6200-S4-160	160	320	325 × 260 × 462	26.7
AST6200-S4-185	185	360	491 × 303 × 560	36.8
AST6200-S4-200	200	380	491 × 303 × 560	36.8
AST6200-S4-220	220	435	491 × 303 × 560	36.8
AST6200-S4-250	250	500	491 × 303 × 560	38.7
AST6200-S4-280	280	580	491 × 303 × 560	38.7
AST6200-S4-320	320	630	491 × 303 × 560	38.7
AST6200-S4-350	350	700	491 × 303 × 560	38.7
AST6200-S4-400	400	820	684 × 420 × 840	93.6
AST6200-S4-450	450	920	684 × 420 × 840	93.6
AST6200-S4-500	500	1000	684 × 420 × 840	95
AST6200-S4-630	630	1200	684 × 420 × 840	95
AST6200-S4-700	700	1400	684 × 420 × 840	100
AST6200-S4-800	800	1600	684 × 420 × 840	100

Dimensions: width × depth × height. Gross weight is for one individually packed unit.

Select your AST6200.

520-690 V three-phase AC | S6 voltage class

MODEL	POWER (kW)	CURRENT (A)	W × D × H (mm)	GROSS / UNIT (kg)
AST6200-S6-7.5	7.5	11	145 × 214 × 315	5.75
AST6200-S6-011	11	15	145 × 214 × 315	5.75
AST6200-S6-015	15	22	145 × 214 × 315	5.75
AST6200-S6-022	22	30	145 × 214 × 315	5.75
AST6200-S6-030	30	37	145 × 214 × 315	5.75
AST6200-S6-037	37	44	145 × 214 × 315	5.75
AST6200-S6-045	45	60	145 × 214 × 315	5.75
AST6200-S6-055	55	76	173 × 218 × 322	8.35
AST6200-S6-075	75	97	173 × 218 × 322	8.35
AST6200-S6-090	90	110	210 × 225 × 360	12
AST6200-S6-115	115	145	210 × 225 × 360	12
AST6200-S6-160	160	220	325 × 260 × 462	26.7
AST6200-S6-200	200	220	325 × 260 × 462	26.7
AST6200-S6-220	220	264	491 × 303 × 560	36.8
AST6200-S6-250	250	320	491 × 303 × 560	38.7
AST6200-S6-280	280	370	491 × 303 × 560	38.7
AST6200-S6-320	320	400	491 × 303 × 560	38.7
AST6200-S6-350	350	440	491 × 303 × 560	38.7
AST6200-S6-400	400	500	684 × 420 × 840	93.6
AST6200-S6-450	450	500	684 × 420 × 840	93.6
AST6200-S6-500	500	580	684 × 420 × 840	95
AST6200-S6-630	630	700	684 × 420 × 840	95
AST6200-S6-700	700	820	684 × 420 × 840	100
AST6200-S6-800	800	920	684 × 420 × 840	100
AST6200-S6-1000	1000	1200	684 × 420 × 840	100
AST6200-S6-1200	1200	1410	684 × 420 × 840	100
AST6200-S6-1400	1400	1600	684 × 420 × 840	100

Dimensions: width × depth × height. Gross weight is for one individually packed unit.

Select your AST6200.

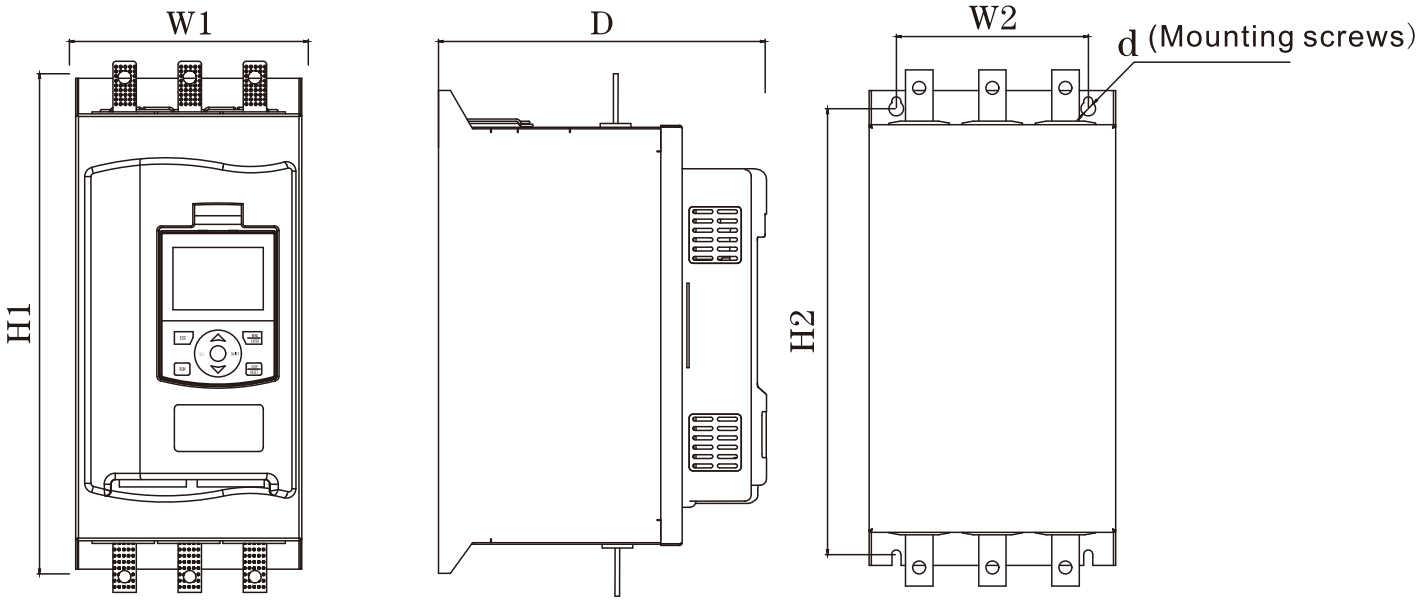
1000-1140 V three-phase AC | S11 voltage class

MODEL	POWER (kW)	CURRENT (A)	W × D × H (mm)	GROSS / UNIT (kg)
AST6200-S11-015	15	10	145 × 214 × 315	5.75
AST6200-S11-022	22	15	145 × 214 × 315	5.75
AST6200-S11-030	30	22	145 × 214 × 315	5.75
AST6200-S11-037	37	30	145 × 214 × 315	5.75
AST6200-S11-045	45	30	145 × 214 × 315	5.75
AST6200-S11-055	55	37	173 × 218 × 322	8.35
AST6200-S11-075	75	60	173 × 218 × 322	8.35
AST6200-S11-090	90	60	210 × 225 × 360	12
AST6200-S11-115	115	74	210 × 225 × 360	12
AST6200-S11-132	132	90	325 × 260 × 462	26.7
AST6200-S11-160	160	110	325 × 260 × 462	26.7
AST6200-S11-200	200	150	491 × 303 × 560	36.8
AST6200-S11-250	250	180	491 × 303 × 560	38.7
AST6200-S11-280	280	200	491 × 303 × 560	38.7
AST6200-S11-320	320	220	491 × 303 × 560	38.7
AST6200-S11-350	350	264	491 × 303 × 560	38.7
AST6200-S11-400	400	280	684 × 420 × 840	93.6
AST6200-S11-500	500	320	684 × 420 × 840	95
AST6200-S11-630	630	400	684 × 420 × 840	95
AST6200-S11-700	700	500	684 × 420 × 840	100
AST6200-S11-800	800	560	684 × 420 × 840	100

Dimensions: width × depth × height. Gross weight is for one individually packed unit.

Plan the mechanical installation.

Unit outline and mounting references | All dimensions in mm



Enclosure and mounting dimensions - front, side and rear views.

Mounting references

FRAME WIDTH W1	MOUNTING W2	MOUNTING H2	FIXING
145	116	285	M6
173	140	300	M6
210	150	343	M8
325	260	440	M8
491	335	535	M8
684	350	780	M10

All dimensions are in mm. Overall W x D x H dimensions and weights: see the selected model on pages 12-15.

Control demanding starts.

Typical uses across material handling, ventilation and compressed air.



01 Conveyors & handling

Tune acceleration to reduce abrupt mechanical loading. Check breakaway torque, load inertia and the required starting time.



02 Fans & blowers

Match the starting settings to the fan load and inertia. Confirm supply capacity and acceleration time for the complete system.



03 Compressors

Coordinate soft starting with the compressor unloading sequence. Verify the starting torque and repeated-start duty.

Application illustrations are representative. Final suitability depends on the motor, load, supply and installation conditions.

Specify the complete duty.

A clear motor and application brief supports accurate product selection.



01 Motor and supply

Send voltage, power, rated current, frequency and the motor connection details.

02 Load and starting

Describe the driven equipment, starting torque, inertia, acceleration time and starts per hour.

03 Control and feedback

Confirm local / remote commands, PLC communication, relay functions and analog feedback.

INSTALLATION CHECKPOINTS

- Install indoors and keep the forced-air cooling path clear.
- Confirm ambient temperature, altitude and enclosure requirements.
- Provide the required upstream isolation and protective devices.
- Do not connect capacitors to the soft starter output.
- Use the confirmed dimensional drawing for cabinet fabrication.

Send your motor nameplate and application details to info@inomaxtechnology.com. Full installation, parameter and safety instructions are in the AST6200 user manual.

INOMAX MOTOR CONTROL

INOMAX

Built your trust of Technology from China

Soft starters and variable frequency drives



SHENZHEN INOMAX TECHNOLOGY CO., LTD

Motor starting, motor protection and drive solutions for industrial applications.

Ideal Science and Technology Park,
Guanlan Avenue, Longhua District, Shenzhen,
Guangdong, China

Tel / Fax +86 755 2100 2258

info@inomaxtechnology.com

www.inomaxtechnology.com

Scan to connect