

Selection guide

Type of machine		Simple machines		
Starters/drives		<div style="display: flex; justify-content: space-around;">    </div>		
		Variable speed drives Soft starters and soft start/soft stop units		
		Altistart® 01	Altivar® 11	Altivar 31
				
Supply voltage ranges for 50/60 Hz line supply		Single phase 110–480 V Three phase 110–690 V	Single phase 100–120 V Single phase 200–240 V Three phase 200–230 V	Single phase 200–240 V Three phase 200–240 V Three phase 380–500 V Three phase 525–600 V
Motor power		0.25–75 Hp	0.25–3 Hp	0.25–20 Hp
Drive	Output frequency	–	0.5–200 Hz	0.5–500 Hz
	Type of control	Asynchronous motor	Sensorless flux vector control	
		Synchronous motor	–	–
	Transient overtorque	–	150–170% of nominal motor torque	170–200% of the nominal motor torque
Functions				
Number of functions		1	26	50
Number of preset speeds		–	4	16
Number of I/O	Analog inputs	–	1	3
	Logic inputs	3	4	6
	Analog outputs	–	–	1
	Logic outputs	1	1	–
	Relay outputs	1	1	2
Communication	Integrated	–	–	Modbus and CANopen
	Available as an option	Combined with TeSys U-line self-protected starter.	–	DeviceNet, EthernetTCP/IP, Fipio, Profibus DP
Cards (available as an option)		–	–	–
Standards and certifications		IEC/EN 60947-4/2 C-TICK - CSA - UL CE - CCC	EN 50178, EN 61800-3 EN 55011 - EN 55022 class B and class A gr. 1 NOM 117 - C-TICK - CSA UL - N998 - CE	EN 50178, EN 61800-3 EN 55011 - EN 55022: class A, class B with option C-TICK - UL - N998 - CE - CSA

Pumping and ventilation machines



Complex, high-power machines



Soft start/soft stop units

Variable speed drives
Building (HVAC) (1)

Industry

Variable speed drives

Altistart 48



Altivar 21



Altivar 61



Altivar 71



Three phase 230–415 V
Three phase 208–690 V

Three phase 200–240 V
Three phase 380–480 V

Single phase 200–240 V
Three phase 200–240 V
Three phase 380–480 V

Single phase 200–240 V
Three phase 200–240 V
Three phase 380–480 V

2–1200 Hp

0.1–40 Hp
0.5–200 Hz

0.5–900 Hp
0.5–1600 Hz up to 50 Hp
0.5–500 Hz from 50 to 900 Hp

0.5–700 Hp
0.1–1600 Hz up to 50 Hp
0.1–500 Hz from 50 to 700 Hp




Sensorless flux vector control

–	–	–	Vector control without speed feedback
–	Transient overload: 110% of the nominal drive current for 60 seconds	Transient overload: 110–120% of the nominal drive current for 60 seconds	200% of the nominal motor torque for 2 s 170% for 60 seconds
36	50	> 150	> 150
–	8	16	16
1 PTC probe	2	2–4	2–4
4	3	6–20	6–20
1	1	1–3	1–3
2	–	0–8	0–8
3	2	2–4	2–4
Modbus	Modbus	Modbus and CANopen	Modbus and CANopen
DeviceNet, Ethernet TCP/IP, Fipio, Profibus DP	LonWorks, METASYS N2, APOGEE FLN, BACnet	Ethernet TCP/IP, Fipio, Modbus Plus, INTERBUS, Profibus DP, Modbus/Uni-Telway, DeviceNet, LonWorks, METASYS N2, APOGEE FLN, BACnet	Ethernet TCP/IP, Modbus/Uni-Telway, Fipio, Modbus Plus, Profibus DP, DeviceNet, INTERBUS
–	–	I/O extension cards "Controller Inside" programmable card, multi-pump cards	Encoder interface card I/O extension card "Controller Inside" programmable card
IEC/EN 60947-4-2 EMC class A and B DNV - C-TICK - GOST CCIB - NOM - UL - CE CCC - CSA	EN 50178, IEC/EN 61800-3 EN 55011, EN 55022: class A, class B with option CE, UL, C-Tick, N998	IEC/EN 61800-5-1, IEC/EN 61800-3 (environments 1 and 2, C1 to C3) EN 55011, EN 55022, IEC/EN 61000-4-2/4-3/4-4/4-5/4-6/4-11 CE, UL, CSA, DNV, C-Tick, NOM 117, GOST	

Selection Guide



Enclosed and MMC packaged products

Type of motor control Key application/market segment	Soft starts Commercial & Industrial – pumps – agitators – fans – mixers – conveyors – grinders – centrifuges – crushers – lifts – presses	Adjustable speed drives Commercial HVAC & retrofits – pumps – fans	Adjustable speed drive Commercial & Industrial HVAC – pumps – fans
Packaged products Integrated controls protected within enclosures, optimized with disconnect means, circuit breakers, push buttons, selector switches, control logic, communication and miscellaneous options designed to meet application requirements	Enclosed 48 	S-Flex™ 	E-Flex™ 
Product platform	Altistart 48	Altivar 31	Altivar 61 (variable torque)
Distribution voltage ranges for 50/60 Hz line supply	208, 240, 480, 600 Vac	480 Vac	208, 240, 480 Vac
Horsepower ratings	3 to 200 hp, 208 V 5 to 250 hp, 230 V 10 to 500 hp, 480V 15 to 600 hp, 575 V	<u>Variable torque:</u> 1 to 20 hp, 460 V	<u>Variable torque:</u> 1 to 100 hp, 460 V 1 to 50 hp, 208/230 V
Configurable options	Customizable product – non-reversing – reversing – shunt trip	Standard product – drive with isolation/bypass	Configurable product – drive with disconnect means – drive with isolation/bypass
Enclosure ratings	Extensive options Type 1 general purpose Type 12 dust/drip proof Type 3R outdoor	Predefined options Type 1 general purpose	Limited options Type 1 general purpose Type 12/12K dust/drip proof Type 3R outdoor
Communication networks	Modbus (native) Modbus Plus Ethernet TCP/IP (gateway) DeviceNet (gateway)	Modbus RJ45 CANopen	APOGEE FLN (P1) MetSYS N2 BACnet Modbus Plus Ethernet TCP/IP Profibus DP LonWorks
Standards and certifications	UL508 cUL/ CSA Seismic qualification ICC ES AC156 acceptance test protocol	UL508A Seismic qualification ICC ES AC156 acceptance test protocol	UL508C cUL Seismic qualification ICC ES AC156 acceptance test protocol
Catalog number	8636BR0401 8638CT0401	8839BR0501	8000HO622 8800BR0601



Enclosed and MMC packaged products

Adjustable speed drives Industrial, Water/wastewater, Strategic Accounts – aggregates – industrial facilities – government – manufacturing process – healthcare – municipal pumping – schools – pharmaceutical	Adjustable speed drives (18-Pulse) Industrial, Water/wastewater – clean power technology – high horsepower – process control applications – fans	Soft starts & adjustable speed drives Industrial, Water/wastewater Pharmaceutical – high density construction – pumps – fans – intelligent networking
M-Flex™  Altivar 61 (constant torque) Altivar 71 (constant torque)	PowerGard™ Series C  Altivar 61 (constant torque) Altivar 71 (constant torque)	Model 6 motor control center  Altistart 48 Altivar 61 (variable torque) Altivar 71 (variable torque)
208, 240, 480 Vac	Three phase 480 Vac	208, 240, 480, 600 Vac
<u>Variable torque:</u> 1 to 500 hp, 460 V 1 to 50 hp, 208/230 V <u>Constant torque:</u> 1 to 450 hp, 460 V 1 to 40 hp, 208/230 V	<u>Variable torque:</u> 50 to 500 hp, 460 V <u>Constant torque:</u> 40 to 450 hp, 460 V	<u>Variable torque:</u> 1 to 500 hp, 460 V 1 to 50 hp, 208/230 V 1 to 40 hp, 208/230 V Soft start: 3 to 200 hp, 208 V 5 to 250 hp, 230 V 10 to 500 hp, 480V 15 to 600 hp, 575V
Customizable product – drive with disconnect means – drive with integrated bypass – drive with barriered bypass – drive with reduced voltage bypass – drive with soft start bypass	Customizable product – drive with disconnect means – drive with integrated bypass – drive with barriered bypass – drive with reduced voltage bypass – drive with soft start bypass – soft start with options	Customizable product – drive with disconnect means – drive with integrated bypass – drive with barriered bypass – drive with reduced voltage bypass – drive with soft start bypass
Extensive options Type 1 general purpose Type 1G general purpose with gasketing Type 12/12K dust/drip proof	Extensive options Type 1 general purpose Type 1B general purpose with fan filters	Extensive options Type 1 general purpose Type 12/12K dust/drip proof Type 3R outdoor
APOGEE FLN (P1) LonWork BACnet MetSYS N2 DeviceNet Modbus/Unitelway Ethernet TCP/IP Profibus DP FIPIO Profibus DP Interbus S	APOGEE FLN (P1) LonWorks BACnet MetSYS N2 DeviceNet Modbus/Unitelway Ethernet TCP/IP Modbus Plus FIPIO Profibus DP Interbus S	APOGEE FLN (P1) LonWorks BACnet MetSYS N2 DeviceNet Modbus/Unitelway Ethernet TCP/IP Modbus Plus FIPIO Profibus DP Interbus S
UL508A UL508C cUL Seismic qualification ICC ES AC156 acceptance test protocol	UL508A UL508C cUL Seismic qualification ICC ES AC156 acceptance test protocol	UL845 CSA NOM Seismic qualification ICC ES AC156 acceptance test protocol
8000HO0623 8800BR0602	Pending release 3Q-2006	8998BR9701 8998CT9701