Altivar™ 660 Drive Systems

The Schneider Electric Altivar™ 660 Drive Systems provides a robust, packaged, adjustable-speed solution for commercial, industrial, and municipal applications. All ratings are UL 508A listed, with selectable control and power configurations. These drives combine the reliability and ease-of-use of the Altivar drives family with proven, validated, and tested drive system designs.

- 1 - 900hp at 460V Normal Duty
- 1 - 700hp at 460V Heavy Duty
- 1 - 60hp at 230V Normal Duty
- 1 - 50hp at 230V Heavy Duty

- Pre-engineered, ready to use solutions in highly efficient designs
- Modular and compact to maximize space utilization
- Flexibility for application requirements
- UL Type 1, 12 and 3R rated enclosures
- Built in pump curves
- Embedded ethernet and web server
- Dynamic QR codes
- Real time clock
ATV660 Drive Systems

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Applications in WWW

- Water
  - Desalination
  - Water Treatment Plant
  - Distribution Network

- Wastewater
  - Wastewater Treatment Plant
  - Collection Network

Applications in O&G

- Upstream
  - Oil & Gas Production & Gathering
  - Oil & Gas Separation Draw works
  - Gas Treatment
  - Gas Export
  - Subsea

- Midstream
  - Oil & Gas Transportation & Distribution
  - Oil & Gas Storage
  - Gas Liquefaction (LNG/CNG)
  - Gas to Liquid (GTL)

- Downstream
  - Petroleum Refining
  - Petrochemical Plants
  - Air Separation Plants
  - Chemical Industry
Applications in MMM

- **Mining**
  - Extraction
  - Underground
  - Processing
  - Transportation & Logistics

- **Cement**
  - Cement
  - Aggregates

- **Metal**
  - Raw Material Preparation (Coke/Sinter/Pellet)
  - Iron Making Area
  - Rolling
  - Finishing

Applications in F&B

- **Liquid Food**
  - Dairy
  - Juice

- **Agri-Business**
  - Sugar
  - Oil
  - Grain
ATV660 Drive Systems

ATV660 Drive Systems (1-125hp ND)

- 1–125hp Normal Duty at 460V, 1–100hp Heavy Duty at 460V, 1–60hp Normal Duty at 230V, 1–50hp at 230V Heavy Duty
- All four frames are 16 in wide
- All wall mount frames are 19.5 in deep
- Two additional frame enclosures available for ETO options
- UL Type 1, 12 & 3R rated enclosures
- 100,000 SCCR short circuit rating
- Energy management (integrated power measurement)
- Remote graphic keypad
- Standard 3% equivalent impedance
- Circuit breaker disconnect
- White component mounting plate
- Service entrance - 3R

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75-125hp ND @460V

40-60hp ND @460V

20-30hp ND @460V

1-15hp ND @460V
ATV660 Drive Systems

ATV660 Drive Systems (1-125hp ND)

Available options:
- Bypass-utilizing Zelio Smart Relay (up to 250hp)
- Harmonic filter
- Service switch (bypass)
- DV/DT motor filter
- 50 Deg C (3R)
- Communication cards
- Control and indicator options
- 5% equivalent impedance option
- Many more to meet customer requirements
ATV660 Drive Systems (150-900hp ND)

- 150–900hp Normal Duty @ 460V, 125-700hp Heavy Duty at 460V
- UL Type 1 & Type 12 rated enclosures
- UL 508A
- 100,000 AIC short circuit rating
- Contains frequency inverter & rectifier modules, circuit breaker, line reactor, motor choke
- Remote graphic keypad
- Removable conduit entry plate
ATV660 Drive Systems

ATV660 Drive Systems (150-900hp ND)

- Output Filter
- Inverter Module (behind panel)
- Rectifier Module (behind panel)
- Fans
- Circuit Breaker
- Line Reactor
Configured to Order

Catalog number example: ATV660D22T4N2ANWAANAGK

Product line (Utility)
- ATV660 Drive System
- 680 Low Harmonic

Product line (Industry)
- ATV960 Drive System
- 960
- 980 Regen

Voltage
- Code HP at 460V
- U3 230V
- T4 460V
- 2 UL (default)
- 6 cUL

Power Circuit
- Code HP at 460V
- N Normal Duty (default)
- H Heavy Duty
- Y Bypass (<300hp)

Light Options
- Code HP at 460V
- N None
- A Red pwr on, Yell trip gr AFC run, Yell auto
- B Red pwr on, Yell trip gr AFC run

Light Options (UL)
- Code HP at 460V
- U15 1
- U22 2
- U30 3
- U55 5
- D11 10
- D15 15
- D18 20
- D22 25
- D30 30
- D37 40
- D45 50
- D55 60
- D75 75
- D90 100
- C11 125
- C13 150
- C16 200
- C20 250
- C25 300
- C31 400
- C40 500
- C50 600
- C63 700

Normal Duty Values

Heavy Duty Values

Enclosure
- Code HP at 460V
- Type 1 (default)
- Type 12
- Type 3R (<150hp)

Enclosure Options
- Type 1 SPD 40 k
- Type 2 SPD 80 k

Control Options
- Code HP at 460V
- Prewired for HOA
- HOA, Speed Pot (default)
- HOA, Speed Pot, Start-Stop

Control Options

Harmonic Mitigation
- Code HP at 460V
- N None (default)
- A 5% line impedance
- M Harmonic filter

Comms Options
- Code HP at 460V
- N None
- A Profibus DP
- B CANopen daisy chain
- C Devicenet
- D CANopen sub-D9
- E CANopen open style
- F Profinet
- G Ethernet/IP-VW3A3720

Mismatch Options
- Code HP at 460V
- A Ethernet port on front door (PC/iPad)
- B Line contactor
- C Drive I/O extension
- D Drive extended relay module (3 NO)
- E 0-10V auto speed reference
- F 1 NO auxiliary auto mode contact
- G Type 1 SPD 40 k
- H Type 2 SPD 80 k
- J Not assigned
- K Additional 150VA control power transformer
- L Push-to-test pilot lights
- M Not assigned
- P Permanent wire markers (sleeve type)
- Q Trip reset button
- R Not assigned
- S 50 deg C (3R only, 125hp & below)
- T Service Switch
- U Top entry cubical (150hp & above)
- V Assembled in US (60hp & below)
- W Not assigned
- X DV/DT filter
ATV660 Drive Systems

Make the Switch Today

M-Flex
- Commercial
- Industrial
- WWW

ATV Plus
- Commercial
- Industrial
- WWW

E-Flex
- Industrial
- Some WWW

Smaller footprint
Advanced keypad
Option rich

Embedded pump curves
Embedded web server
Dynamic QR codes

ATV660 Drive Systems
## ATV660 Drive Systems (1-900hp ND)

<table>
<thead>
<tr>
<th>Electrical Specifications</th>
<th>Environmental Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input mains voltage</strong></td>
<td><strong>Storage temperature</strong></td>
</tr>
<tr>
<td>230 Vac ± 10%, 460 Vac ± 10%</td>
<td>-13 to +149 °F (-25 to +65 °C)</td>
</tr>
<tr>
<td><strong>Short circuit current rating (AC symmetrical)</strong></td>
<td><strong>Operating temperature</strong></td>
</tr>
<tr>
<td>100 kA</td>
<td>+14 to +104 °F (-10 to +40 °C) Type 1/12; +14 to +122 °F (-10 to +50 °C) Type 3R</td>
</tr>
<tr>
<td><strong>Control voltage</strong></td>
<td><strong>Humidity</strong></td>
</tr>
<tr>
<td>24 Vdc, 115 Vac + 10%/-15% (control power transformer included)</td>
<td>95% with no condensation or dripping water, conforming to IEC 60068-2-78</td>
</tr>
<tr>
<td><strong>Displacement power factor</strong></td>
<td><strong>Altitude</strong></td>
</tr>
<tr>
<td>98% through speed range</td>
<td>3,300 ft (1000 m), without derating, derating of the current by 1% for each additional 330 ft (100 m) up to 9,842 ft. (3000 m) maximum</td>
</tr>
<tr>
<td><strong>Input frequency</strong></td>
<td><strong>Enclosure</strong></td>
</tr>
<tr>
<td>50/60Hz ± 5%</td>
<td>UL Type 1: General indoor; UL Type 12: Indoor dust-tight (ventilated); UL Type 3R: Outdoor (ventilated)</td>
</tr>
<tr>
<td><strong>Output voltage</strong></td>
<td><strong>Pollution degree</strong></td>
</tr>
<tr>
<td>Three-phase output, maximum voltage equal to input voltage</td>
<td>Pollution degree 2 or 3 per NEMA ICS-1 Annex A and IEC 60664-1</td>
</tr>
<tr>
<td><strong>Galvanic isolation</strong></td>
<td><strong>Operational test vibration</strong></td>
</tr>
<tr>
<td>Galvanic isolation between power and control (inputs outputs, &amp; power supplies)</td>
<td>Conforming to IEC 60721-3-3-3M3 amplitude 1.5 mm peak to peak from 3-13 Hz 1 g from 13-200Hz</td>
</tr>
<tr>
<td><strong>Torque/Over torque</strong></td>
<td><strong>Transit shock test</strong></td>
</tr>
<tr>
<td>Normal Duty: 110% of nominal motor torque for 60s Heavy Duty: 150% of nominal motor torque for 60s</td>
<td>15 g, 11 ms</td>
</tr>
<tr>
<td><strong>Current (transient)</strong></td>
<td><strong>Codes and standards</strong></td>
</tr>
<tr>
<td>Normal Duty: 110% of drive rated current for 60s Heavy Duty: 150% of drive rated current for 60s</td>
<td>UL Listed per UL 508A IEEE519 compliant (passive harmonic filter required); Conforms to applicable NEMA ICS, NFPA, and IEC standards; Manufactured under ISO 9001 standards</td>
</tr>
<tr>
<td><strong>Switching frequency</strong></td>
<td><strong>Cyber Security</strong></td>
</tr>
<tr>
<td>Selectable from .5-8 kHz Factory setting: 2.5 kHz The drive reduces the switching frequency automatically in the event of excessive heat sink temperature</td>
<td>Achilles™ Level 2 certification</td>
</tr>
<tr>
<td><strong>Efficiency</strong></td>
<td></td>
</tr>
<tr>
<td>95% (or greater) at full load typical</td>
<td></td>
</tr>
</tbody>
</table>

### Process drives without bypass are available up to 700hp HD / 900hp ND at 460V or 50hp HD / 60hp ND at 230V. The following standard features for process drives without bypass, when no options are ordered:

- Disconnect handle with lockout/tagout provisions
- Door mounted keypad holder and display
- One form C tripped relay
- Two form A sequence relays
- Six programmable digital inputs
- Standard color RAL735
- Class 10 overload protection
- Controller programming
  - Acceleration (ACC): 10s
  - Deceleration (DEC): 10s
  - Low Speed (LSP): 3Hz
ATV660 Drive Systems

Specifications

1HP [0.75KW] - 15HP [11KW]
AT 460V NORMAL DUTY*

1HP [0.37KW] - 10HP [7.5KW]
AT 460V HEAVY DUTY*

1HP [0.75KW] - 7.5HP [5.5KW] AT 230V
NORMAL DUTY*

*STANDARD DRIVE PACKAGE

ELEVATION 600MM
TYPE 1, 12
ATV660 Drive Systems  Specifications

1HP[.75KW] - 15HP[11KW] AT 460V NORMAL DUTY*
1HP[.37KW] - 10HP[7.5KW] AT 460V HEAVY DUTY*
1HP[.75KW] - 7.5HP[5.5KW] AT 230V NORMAL DUTY*

*STANDARD DRIVE PACKAGE

ELEVATION 600MM TYPE 1, 12
ATV660 Drive Systems

Specifications

20HP[15KW] - 30HP[22KW] at 460V NORMAL DUTY*
7.5HP[5.5KW] - 10HP[7.5KW] at 230V HEAVY DUTY*
*STANDARD DRIVE PACKAGE

ELEVATION 1000MM
TYPE 1, 12

Schneider Electric
20HP[15KW] - 30HP[22KW] AT 460V NORMAL DUTY*
7.5HP[5.5KW] - 10HP[7.5KW] AT 230V HEAVY DUTY*
*STANDARD DRIVE PACKAGE

ELEVATION 1000MM
TYPE 3R
ATV660 Drive Systems Specifications

40HP [30kW] - 60HP [45kW] AT 460V NORMAL DUTY*
30HP [22kW] - 50HP [37kW] AT 460V HEAVY DUTY*
20HP [15kW] - 30HP [22kW] AT 230V NORMAL DUTY*

*STANDARD DRIVE PACKAGE

ELEVATION 1200MM
TYPE 1, 12

Schneider Electric
ATV660 Drive Systems

Specifications

40HP[30KW] - 60HP[45KW]
AT 460V NORMAL DUTY*
30HP[22KW] - 50HP[37KW]
AT 460V HEAVY DUTY*
20HP[15KW] - 30HP[22KW]
AT 230V NORMAL DUTY*
AT 230V HEAVY DUTY*

*STANDARD DRIVE PACKAGE

ELEVATION 1200MM
TYPE 3R

![Diagram of ATV660 Drive Systems specifications with dimensions and views: left view, front view, door projection, top view, and bottom view.](image-url)
ATV660 Drive Systems

75HP[55KW] - 125HP[90KW] AT 460V
NORMAL DUTY*

60HP[45KW] - 100HP[75KW] AT 460V
HEAVY DUTY*

40HP[30KW] - 60HP[45KW]
AT 230V NORMAL DUTY*

30HP[22KW] - 50HP[37KW]
AT 230V HEAVY DUTY*

*STANDARD DRIVE
PACKAGE

ELEVATION 2000MM
TYPE 1

LEFT VIEW
FRONT VIEW

CONDUIT ENTRY

DOOR PROJECTION

TOP VIEW

CONDUIT ENTRY

BOTTOM VIEW
MOUNTING LOCATIONS

TYPE I CONFIGURATION

Schneider Electric
75HP[56KW] - 125HP[90KW] AT 460V NORMAL DUTY*
60HP[45KW] - 100HP[75KW] AT 460V HEAVY DUTY*
40HP[30KW] - 60HP[45KW] AT 230V NORMAL DUTY*
30HP[22KW] - 50HP[37KW] AT 230V HEAVY D
*STANDARD DRIVE PACKAGE

ELEVATION 2000MM
TYPE 12
ATV660 Drive Systems

75HP[55KW] - 125HP[90KW] AT 460V NORMAL DUTY*
60HP[45KW] - 100HP[75KW] AT 460V HEAVY DUTY*
40HP[30KW] - 60HP[45KW] AT 230V NORMAL DUTY*
30HP[22KW] - 50HP[37KW] AT 230V HEAVY DUTY*
*STANDARD DRIVE PACKAGE

ELEVATION 2000MM
TYPE 3R
ATV660 Drive Systems

ATV660
TYPE 1 FRAME 2P
300-500HP @ 460V

ELEVATION 2000MM
TYPE 1
ATV660 Drive Systems

ATV660
TYPE 12   FRAME 2P
300-500HP @ 460V

ELEVATION 2000MM
TYPE 12
ATV660 Drive Systems
For additional information, contact your local field office.