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.

**Altivar™ 660 Drive Systems**

- 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

• 1 - 900hp at 460V Normal Duty
• 1 - 700hp at 460V Heavy Duty
• 1 - 60hp at 230V Normal Duty
• 1 - 50hp at 230V Heavy Duty
ATV660 Drive Systems

Content

ATV660 Drive Systems

- Applications .....................................................4
- 1-125hp.............................................................6
- 150-900hp..........................................................8
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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

Applications in MMM

- ATV 6XX
- ATV 9XX
- Mining
  - Extraction
  - Underground
  - Processing
  - Transportation & Logistics
- Cement
  - Cement
  - Aggregates
- Metal
  - Raw Material Preparation (Coke/Sinter/Pellet)
  - Iron Making Area
  - Rolling
  - Finishing
- Application
  - Flotation
  - Separation
  - Thickening
  - Long Conveyor
  - Crusher, Screen, Grinder, Mill
  - Loading/Unloading
  - Conveying
  - Pump/Fan/Compressor

Applications in F&B

- ATV 6XX
- ATV 9XX
- Liquid Food
  - Dairy
  - Juice
  - Air Drying
  - Cyclone
  - Mech Vapor Recompression
  - Pumping Pipe Distribution
  - Pumps
  - Air Blower Fan
- Agri-Business
  - Sugar
  - Oil
  - Grain
  - Mixers
  - Conveying
  - Mill & Crushers
  - Centrifugal Pump
  - Pumps
  - Air Blower Fan
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
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

ATV660 Drive Systems

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

Product line (Industry)
960 ATV960 Drive System
980 Regen

Voltage
U3 230V
T4 460V

Power Circuit
W W/O bypass (default)
Y Bypass (<300hp)

Light Options
N None
A Red pwr on, Yell trip gr AFC run, Yell auto
B Red pwr on, Yell trip gr AFC run

Miso Options
N None
A Ethernet port on front door (PC/Pad)
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
(T3 only, 125hp & below)
T Service Switch
U Top entry cubical
(V150hp & above)
V Assembled in US
(W60hp & below)
X DV/DT filter

Control Options
N Prewired for HOA
A HOA,Speed Pot (default)
B HOA,Speed Pot, Start-Stop

Harmonic Mitigation
N None (default)
A 5% line impedance
M Harmonic filter

Comms Options
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

Normal Duty Values
<table>
<thead>
<tr>
<th>Code</th>
<th>HP at 460V</th>
</tr>
</thead>
<tbody>
<tr>
<td>U07</td>
<td>1</td>
</tr>
<tr>
<td>U15</td>
<td>2</td>
</tr>
<tr>
<td>U22</td>
<td>3</td>
</tr>
<tr>
<td>U40</td>
<td>5</td>
</tr>
<tr>
<td>U65</td>
<td>7.5</td>
</tr>
<tr>
<td>U75</td>
<td>10</td>
</tr>
<tr>
<td>D11</td>
<td>15</td>
</tr>
<tr>
<td>D15</td>
<td>20</td>
</tr>
<tr>
<td>D18</td>
<td>25</td>
</tr>
<tr>
<td>D22</td>
<td>30</td>
</tr>
<tr>
<td>D30</td>
<td>40</td>
</tr>
<tr>
<td>D37</td>
<td>50</td>
</tr>
<tr>
<td>D45</td>
<td>60</td>
</tr>
<tr>
<td>D55</td>
<td>75</td>
</tr>
<tr>
<td>D75</td>
<td>100</td>
</tr>
<tr>
<td>D90</td>
<td>125</td>
</tr>
<tr>
<td>C11</td>
<td>150</td>
</tr>
<tr>
<td>C13</td>
<td>200</td>
</tr>
<tr>
<td>C16</td>
<td>250</td>
</tr>
<tr>
<td>C20</td>
<td>300</td>
</tr>
<tr>
<td>C25</td>
<td>400</td>
</tr>
<tr>
<td>C31</td>
<td>500</td>
</tr>
<tr>
<td>C40</td>
<td>600</td>
</tr>
<tr>
<td>C50</td>
<td>700</td>
</tr>
<tr>
<td>C63</td>
<td>900</td>
</tr>
</tbody>
</table>

Heavy Duty Values
<table>
<thead>
<tr>
<th>Code</th>
<th>HP at 460V</th>
</tr>
</thead>
<tbody>
<tr>
<td>U15</td>
<td>1</td>
</tr>
<tr>
<td>U22</td>
<td>2</td>
</tr>
<tr>
<td>U30</td>
<td>3</td>
</tr>
<tr>
<td>U55</td>
<td>5</td>
</tr>
<tr>
<td>U75</td>
<td>7.5</td>
</tr>
<tr>
<td>D11</td>
<td>10</td>
</tr>
<tr>
<td>D15</td>
<td>15</td>
</tr>
<tr>
<td>D18</td>
<td>20</td>
</tr>
<tr>
<td>D22</td>
<td>25</td>
</tr>
<tr>
<td>D30</td>
<td>30</td>
</tr>
<tr>
<td>D37</td>
<td>40</td>
</tr>
<tr>
<td>D45</td>
<td>50</td>
</tr>
<tr>
<td>D55</td>
<td>60</td>
</tr>
<tr>
<td>D75</td>
<td>75</td>
</tr>
<tr>
<td>D90</td>
<td>100</td>
</tr>
<tr>
<td>D90</td>
<td>125</td>
</tr>
<tr>
<td>C11</td>
<td>125</td>
</tr>
<tr>
<td>C13</td>
<td>150</td>
</tr>
<tr>
<td>C16</td>
<td>200</td>
</tr>
<tr>
<td>C20</td>
<td>250</td>
</tr>
<tr>
<td>C25</td>
<td>300</td>
</tr>
<tr>
<td>C31</td>
<td>400</td>
</tr>
<tr>
<td>C40</td>
<td>500</td>
</tr>
<tr>
<td>C50</td>
<td>600</td>
</tr>
<tr>
<td>C63</td>
<td>700</td>
</tr>
</tbody>
</table>
ATV660 Drive Systems  Make the Switch

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 Specifications

## Electrical Specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input mains voltage</td>
<td>230 Vac ± 10%, 460 Vac ± 10%</td>
</tr>
<tr>
<td>Short circuit current rating</td>
<td>100 kA</td>
</tr>
<tr>
<td>(AC symmetrical)</td>
<td></td>
</tr>
<tr>
<td>Control voltage</td>
<td>24 Vdc, 115 Vac + 10%/-15% (control power transformer included)</td>
</tr>
<tr>
<td>Displacement power factor</td>
<td>98% through speed range</td>
</tr>
<tr>
<td>Input frequency</td>
<td>50/60Hz ± 5%</td>
</tr>
<tr>
<td>Output voltage</td>
<td>Three-phase output, maximum voltage equal to input voltage</td>
</tr>
<tr>
<td>Galvanic isolation</td>
<td>Galvanic isolation between power and control (inputs outputs, &amp; power supplies)</td>
</tr>
<tr>
<td>Torque/Over torque</td>
<td>Normal Duty: 110% of nominal motor torque for 60s</td>
</tr>
<tr>
<td></td>
<td>Heavy Duty: 150% of nominal motor torque for 60s</td>
</tr>
<tr>
<td>Current (transient)</td>
<td>Normal Duty: 110% of drive rated current for 60s</td>
</tr>
<tr>
<td></td>
<td>Heavy Duty: 150% of drive rated current for 60s</td>
</tr>
<tr>
<td>Switching frequency</td>
<td>Selectable from .5-8 kHz</td>
</tr>
<tr>
<td></td>
<td>Factory setting: 2.5 kHz</td>
</tr>
<tr>
<td></td>
<td>The drive reduces the switching frequency automatically in the event of excessive heat sink temperature</td>
</tr>
<tr>
<td>Efficiency</td>
<td>95% (or greater) at full load typical</td>
</tr>
</tbody>
</table>

## Environmental Specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage temperature</td>
<td>-13 to +149 °F (-25 to +65 °C)</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>+14 to +104 °F (-10 to +40 °C) Type 1/12;</td>
</tr>
<tr>
<td></td>
<td>+14 to +122 °F (-10 to +50 °C) Type 3R</td>
</tr>
<tr>
<td>Humidity</td>
<td>95% with no condensation or dripping water, conforming to IEC 60068-2-79</td>
</tr>
<tr>
<td>Altitude</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>Enclosure</td>
<td>UL Type 1 : General indoor;</td>
</tr>
<tr>
<td></td>
<td>UL Type 12: Indoor dust-tight (ventilated);</td>
</tr>
<tr>
<td></td>
<td>UL Type 3R: Outdoor (ventilated)</td>
</tr>
<tr>
<td>Pollution degree</td>
<td>Pollution degree 2 or 3 per NEMA ICS-1 Annex A and IEC 60664-1</td>
</tr>
<tr>
<td>Operational test vibration</td>
<td>Conforming to IEC 60721-3-3-3M3 amplitude</td>
</tr>
<tr>
<td></td>
<td>1.5 mm peak to peak from 3-13 Hz</td>
</tr>
<tr>
<td></td>
<td>1 g from 13-200Hz</td>
</tr>
<tr>
<td>Transit shock test</td>
<td>15 g, 11 ms</td>
</tr>
<tr>
<td>Codes and standards</td>
<td>UL Listed per UL 508A</td>
</tr>
<tr>
<td></td>
<td>IEEE519 compliant (passive harmonic filter required);</td>
</tr>
<tr>
<td></td>
<td>Conforms to applicable NEMA ICS, NFPA, and IEC standards;</td>
</tr>
<tr>
<td></td>
<td>Manufactured under ISO 9001 standards</td>
</tr>
<tr>
<td>Cyber Security</td>
<td>Achilles™ Level 2 certification</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

---

Conduit knockouts for 1-1/4", 2" and 2-1/2" conduit, typical top and bottom

---

Top View

Bottom View

---

Front View

Door Projection

---

Schneider Electric
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*

AT 460V HEAVY DUTY*

10HP[7.5KW] - 
15HP[11KW] AT 230V 
NORMAL DUTY*

7.5HP[5.5KW] - 
10HP[7.5KW] AT 230V 
HEAVY DUTY*

*STANDARD DRIVE PACKAGE

ELEVATION 1000MM 
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 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*
AT 230V HEAVY DUTY*

*STANDARD DRIVE PACKAGE

ELEVATION 1200MM
TYPE 1, 12
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
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

TYPE 1 CONFIGURATION
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 D

*STANDARD DRIVE PACKAGE

ELEVATION 2000MM
TYPE 12

LEFT VIEW

FRONT VIEW

TOP VIEW

BOTTOM VIEW
MOUNTING LOCATIONS

TYPE 12 CONFIGURATION

CONDUIT ENTRY

DOOR PROJECTION
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

LEFT VIEW

FRONT VIEW

TOP VIEW

DOOR PROJECTION

CONDUIT ENTRY

BOTTOM VIEW
MOUNTING LOCATIONS
For additional information, contact your local field office.