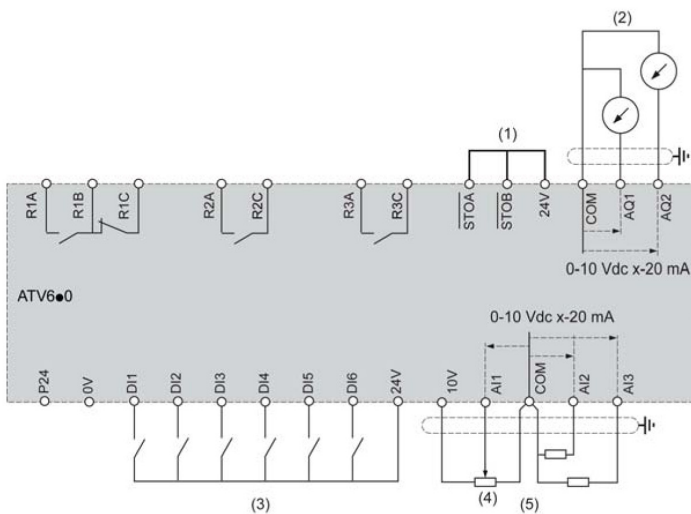
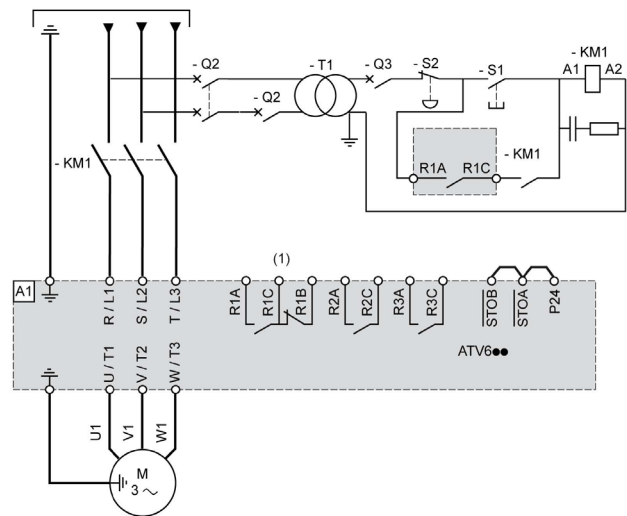


- 1 STOP/ RESET: Stop command/ apply a Fault Reset.
- 2 LOCAL/ REMOTE: used to switch between local and remote control of the drive.
- 3 ESC: used to quit a menu/ parameter or remove the currently displayed value in order to revert to the previous value retained in the memory.
- 4 F1 to F4: used to access drive id, QR code, quick view, and submenus. Simultaneously pressing of F1 and F4 keys generates a screenshot file in the Graphic Display Terminal internal memory.
- 5 Graphic display
- 6 Home: used to access directly at the home page.
- 7 Information: used to have more information about menus, submenus, and parameters. The selected parameter or menu code is displayed on the first line of the information page.
- 8 RUN: executes the function assuming it has been configured.
- 9 Touch wheel/ OK: used to save the current value or access the selected menu/ parameter. The touch wheel is used to scroll fast into the menus. Up/ down arrows are used for precise selections, right/ left arrows are used to select digits when setting a numerical value of a parameter.
- 10 RJ45 Modbus serial port: used to connect the Graphic Display Terminal to the drive in the remote control.
- 11 MiniB USB port: used to connect the Graphic Display Terminal to a computer.
- 12 Battery (10 years life time. Type: CR2032). The battery positive pole points to the front face of the Graphic Display Terminal.

NOTE: Keys 1, 8 and 9 can be used to control the drive, if control via the Graphic Display Terminal is activated. To activate the keys on the Graphic Display Terminal, you first need to set (Config Ref Freq 1) Fr1 to (Ref. Frequency via Rmt. Term) LCC.



Three phase power supply connection



Control connection diagram

| Main Menu |
|---------------------|
| 1 Simply Start |
| 2 Dashboard |
| 3 Diagnostics |
| 4 Display |
| 5 Complete Settings |
| 6 Communication |
| 7 File Management |
| 8 My Preferences |

| 1 Simply Start | | |
|--|---|---|
| Simply Start Basic Frequency Nominal Motor Power Nominal Motor Voltage Nominal Motor Current Nominal Motor Frequency Nominal Motor Speed Motor 1 Cosinus Phi 2/3- wire control Max Frequency Autotuning Autotuning Status Motor Th Current Acceleration Deceleration Low Speed High Speed | My Menu This menu contains the parameters selected in the (My menu config.) MyC- Menu | Modified Parameters This menu gives a quick access to the 10 last modified parameters |

| 4 Display |
|------------------------|
| 4.1 Energy parameters |
| 4.2 Pump dashboard |
| 4.3 Pump parameters |
| 4.4 Motor parameters |
| 4.5 Drive parameters |
| 4.6 Thermal monitoring |
| 4.7 PID display |
| 4.8 Counter management |
| 4.9 Other state |
| 4.10 I/O map |
| 4.11 Communication map |
| 4.12 Data logging |

| 2 Dashboard | | | |
|---|--|---|---|
| Display Ref Frequency Drive State Outlet Pressure Inlet Press. Value Installation Flow Flow Estimated PID Feedback Value Motor Current Motor Speed Motor Therm state | Control Control Ref Freq 1 Config Ref Freq 2 Internal PID ref Auto/Manual assign Manual PID Reference Freq Switch Assign Cmd channel 1 Cmd channel 2 Command Switching Output Ph Rotation | Energy Elc energy cons(TWh) Elc energy cons(GWh) Elc energy cons(MWh) Elc energy cons(kWh) Elc energy cons(Wh) Acv Elc out pwr estim Elc egy TODAY(KWh) Elc egy YESTERD(KWh) | + Instant kW Trend Drive State Weekly kWh Report Monthly kWh Report Yearly kWh Report |

| 5 Complete Setting |
|-----------------------------|
| 5.1 Motor Parameters |
| 5.2 Define System Units |
| 5.3 Sensors Assignment |
| 5.4 Command and Reference |
| 5.5 Pump Functions |
| 5.6 Pump monitoring |
| 5.7 Fan |
| 5.8 Generic functions |
| 5.9 Generic monitoring |
| 5.10 Input/Output |
| 5.11 Error/Warning handling |
| 5.12 Maintenance |

| 6 Communications |
|---------------------|
| 6.1 Comm parameters |

| 3 Diagnostics | | |
|--|---|--|
| Display Last Warning Last Error Nb of start Motor Run Time Service Message Other State Diagnostics Identification | Error History Last Error 1 Drive State Last error 1 Status ETI Cmd word Motor current Output frequency Elapsed Time Mains Voltage Motor therm state Command channel Ref Freq Channel Motor Torque Drive Thermal State IGBT Junction Temp Switching Frequency | Warnings Actual Warnings Warning Group 1 Warning Group 2 Warning Group 3 Warning Group 4 Warning Group 5 Warning history |

| 7 File Management |
|----------------------|
| Transfer config file |
| Factory settings |
| Parameter group list |
| Factory settings |

| 8 My Preferences |
|-------------------------|
| 8.1 Language |
| 8.2 Password |
| 8.3 Parameter access |
| 8.4 Customization |
| 8.5 Date & Time setting |
| 8.6 Access level |
| 8.7 Webserver |
| 8.8 Functions key mgmt |
| 8.9 LCD settings |
| 8.10 Stop and go |
| 8.11 QR code |
| 8.12 Pairing password |

| Main Menu |
|------------------------|
| 4.1 Energy parameters |
| 4.2 Pump dashboard |
| 4.3 Pump parameters |
| 4.4 Motor parameters |
| 4.5 Drive parameters |
| 4.6 Thermal monitoring |
| 4.7 PID display |
| 4.8 Counter management |
| 4.9 Other state |
| 4.10 I/O map |
| 4.11 Communication map |
| 4.12 Data logging |



| 4.1 Energy Parameters | | | |
|---------------------------------|----------------------------------|-------------------------|-----------------|
| Electrical Energy Input Counter | Electrical Energy Output Counter | Mechanical Energy | Energy Saving |
| Active Input Power | Acv Elc out pwr estim | Power Estim Value | Reference Power |
| Real Input Energy (Wh) | Real Consumption (Wh) | Motor Consumption (Wh) | kWh Cost |
| Real Input Energy (kWh) | Real Consumption (kWh) | Motor Consumption (kWh) | CO2 Ratio |
| Real Input Energy (MWh) | Real Consumption (mWh) | Motor Consumption (MWh) | Energy Saved |
| Real Input Energy (GWh) | Real Consumption (GWh) | Motor Consumption (GWh) | Money Saved |
| Real Input Energy (TWh) | Real Consumption (TWh) | Motor Consumption (TWh) | CO2 Saved |
| | EIC egy TODAY (KWh) | | |
| | Elc egy YESTERD (KWh) | | |
| | Over-consumption Thd | | |
| | Under-consumption Thd | | |
| | Over/Under-Cons Delay | | |
| | Peak Output Power | | |

| 4.2 Pump Dashboard | | |
|--------------------|--------------------|---------------------|
| Pump Follow Up | Process | Graphics |
| Pump follow up | Application State | Power vs. Flow |
| Nb of start | PID Reference | Head vs. Flow |
| Motor Run Time | Installation Flow | Efficiency vs. Flow |
| Energy Cons. Ind. | Inlet Press. Value | Power vs. Speed |
| Energy Perf. Ind. | Outlet Pressure | |
| Efficiency | Total Quantity | |
| Highest Eff | Highest Flow | |
| Lowest Eff | Lowest Flow | |

| 4.3 Pump Parameters |
|------------------------|
| Motor Run Time |
| Motor Mechanical Speed |
| Nb of Start |
| Acv Elc out pwr estim |
| Installation Flow |
| Inlet Press. Value |
| Outlet Pressure |
| Total Quantity |
| Efficiency |
| Energy Cons. Ind. |
| Energy Perf. Ind. |
| Highest Flow |
| Lowest Flow |
| Highest Eff |
| Lowest Eff |

| 4.4 Motor Parameters |
|----------------------|
| Motor Speed |
| Motor Voltage |
| Motor Power |
| Motor Torque |
| Motor Current |
| Motor Therm State |

| 4.6 Thermal Monitoring |
|------------------------|
| AI2 Th Value |
| AI3 Th Value |
| AI4 Th Value |
| AI5 Th Value |

| 4.5 Drive Parameters |
|----------------------|
| Image Input AIV1 |
| Ref. Frequency |
| Ref. Frequency |
| Motor Frequency |
| Multiplying Coeff. |
| Mains Voltage |
| DC Bus Voltage |
| Drive Therm State |
| Used Param. Set |

| 4.7 PID Display |
|------------------|
| Internal PID ref |
| PID Reference |
| PID Feedback |
| PID Error |
| PID Output |

| 4.8 Counter Management |
|------------------------|
| Motor Run Time |
| Power-on Time |
| Fan Operation Time |
| Nb of start |
| Time Counter Reset |

| Main Menu |
|-----------------------------|
| 5.1 Motor Parameters |
| 5.2 Define System Units |
| 5.3 Sensors Assignment |
| 5.4 Command and Reference |
| 5.5 Pump Functions |
| 5.6 Pump Monitoring |
| 5.7 Fan |
| 5.8 Generic Functions |
| 5.9 Generic Monitoring |
| 5.10 Input/Output |
| 5.11 Error/Warning Handling |
| 5.12 Maintenance |

| 5.1 Motor Parameters |
|------------------------|
| Dual Rating |
| Motor Control Type |
| Motor Data |
| Motor Thermal Monitori |
| Motor Control |
| Switching Frequency |

| 5.2 Define System Units |
|-------------------------|
| P Sensor Unit |
| Flow Rate Unit |
| Temperature Unit |
| Currency Unit List |

| 5.3 Sensors Assignment |
|------------------------|
| InletPres Assign. |
| OutletPres Assign. |
| Inst. Flow Assign. |

| 5.4 Command and Reference |
|---------------------------|
| Config Ref Freq 1 |
| Ref. 1B Channel |
| Ref. 1B Switching |
| Reverse Disable |
| Control Mode |
| Freq. Switch Assign |
| Config. Ref Freq. 2 |
| Copy Ch1-Ch2 |
| Forced Local Freq. |
| Forced Local Assign |
| Reverse Assign |
| 2/3-wire control |
| 2-wire type |
| Stop Key Enable |
| HMI cmd. |

| 5.5 Pump Functions |
|----------------------|
| PID controller |
| Pump characteristics |
| Flow estimation |
| Pump start stop |
| Priming pump ctrl |
| Flow limitation |

| 5.6 Pump Monitoring |
|-----------------------|
| Pumpcycle Monitoring |
| Anti-Jam Monit |
| Dry Run Monit |
| Pump Thermal Monit |
| Inlet Pressure Monit |
| Outlet Pressure Monit |
| High Flow Monitoring |

| 5.7 Fan |
|------------------|
| PID Controller |
| Jump Frequency |
| Auto Fault Reset |
| Catch on Fly |

| 5.8 Generic Functions |
|------------------------|
| Speed Limits |
| Ramp |
| Ramp Switching |
| Stop Configuration |
| Auto DC Injection |
| Ref. Operations |
| Preset Speeds |
| +/- Speed |
| Jump Frequency |
| PID Controller |
| Threshold Reached |
| Mains Contractor Comm. |
| Reverse Disable |
| Torque Limitation |
| Parameters Switching |
| Stop on Prolonged Spd |

| 5.9 Generic Monitoring |
|------------------------|
| Process Underload |
| Process Overload |
| Stall Monitoring |
| Pump Thermal Moni. |

| 5.11 Error/Warning Handling |
|-----------------------------|
| Auto Fault Reset |
| Fault Reset |
| Catch on the Fly |
| Error Detection Disable |
| External Error |
| Output Phase Loss |
| Input Phase Loss |
| 4-20 mA Loss |
| Fallback Speed |
| Fieldbus Monitoring |
| Embedded Modbus T. |
| Communication Modul. |
| Undervoltage handling |
| Warning Groups Config |

| 5.12 Maintenance |
|---------------------|
| Diagnostics |
| Drive warranty mgmt |
| Customer events |
| Fan magmt |
| Time counter reset |

| 5.10 Input/Output | | | |
|-------------------------|-------------------------|-------------------|------------------|
| I/O Assignment (Assgmt) | DI/DQ | AI/AQ | Relay |
| DI1 Assignment | DI1 Configuration | AI1 Configuration | R1 Configuration |
| DI2 Assignment | DI2 Configuration | AI2 Configuration | R2 Configuration |
| DI3 Assignment | DI3 Configuration | AI3 Configuration | R3 Configuration |
| DI4 Assignment | DI4 Configuration | AQ1 Configuration | |
| DI5 Assignment | DI5 Configuration | AQ2 Configuration | |
| DI6 Assignment | DI6 Configuration | Virtual AI1 | |
| Pulse Input DI5 Assign | Configuration Pulse DI5 | | |
| Pulse Input DI6 Assign | Configuration Pulse DI6 | | |
| AI1 Assignment | Virtual AI1 | | |
| AI2 Assignment | | | |
| AI3 Assignment | | | |
| AIV1 Assignment | | | |

| PID Controller | | | |
|------------------|---------------------------|-----------------------|--------------------|
| Feedback (Feed) | Reference Frequency (Ref) | Settings | Input/Output (IO) |
| Type of Control | Intern PID Ref | PID Prop Gain | I/O Assignment |
| PID Feedback | Config Ref Freq 1 | PID Intgl. Gain | DI/DQ |
| Min PID Feedback | Min PID Process | PID Derivative Gain | AI/AQ |
| Max PID Feedback | Max PID Process | PID Ramp | Relay |
| PID Feedback | AutoManual assign. | PID Inversion | Ref. Freq Template |
| Min fbk Warning | PID Preset References | PID Min Output | |
| Max bbk Warning | | PID Max Output | |
| | | PID Error Warning | |
| | | PID Integral OFF | |
| | | PID Acceleration Time | |
| | | PID Start Ref Freq | |