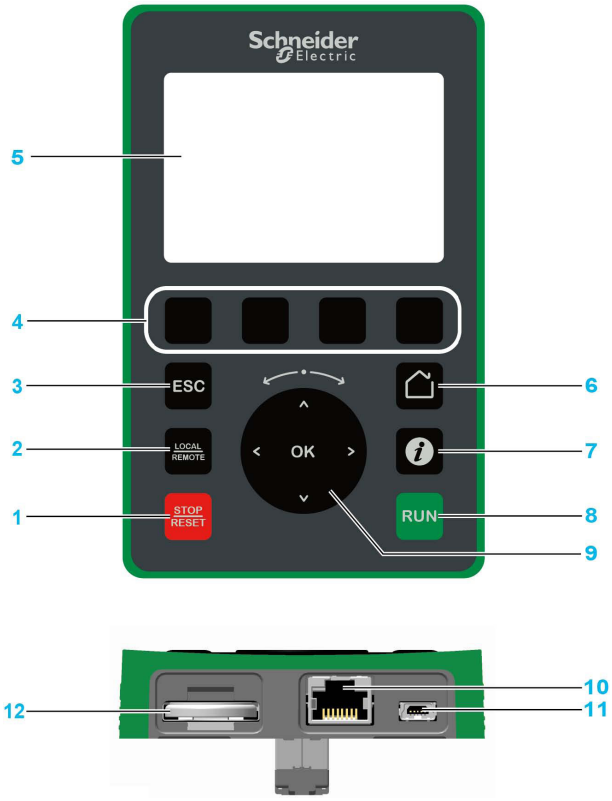
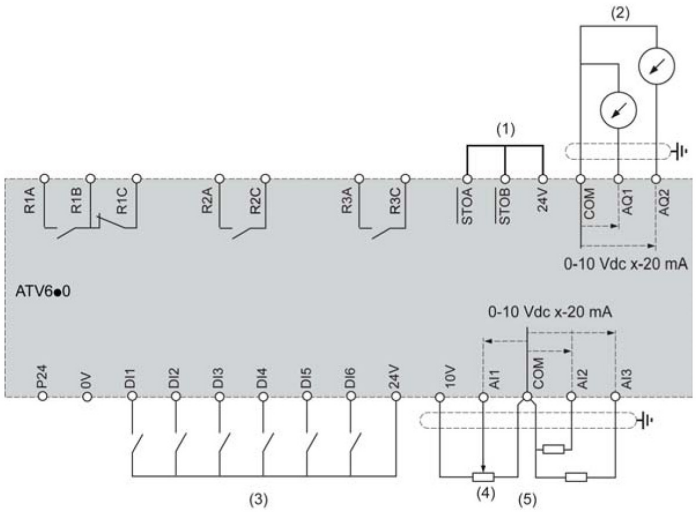
Altivar™ Process 600 Quick Reference Guide

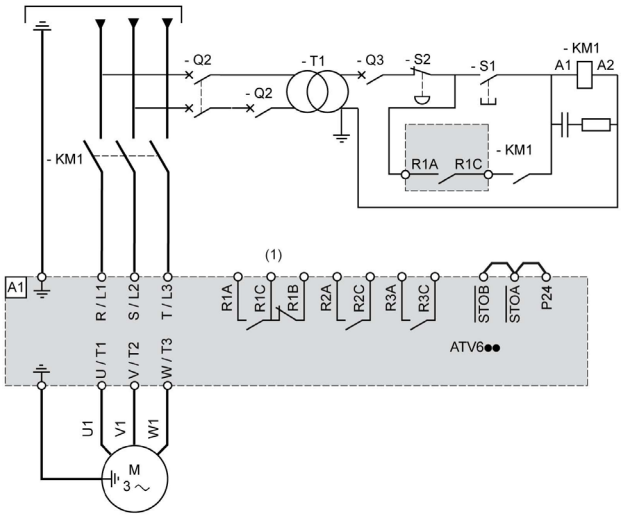


1 STOP/ RESET: Stop command/ apply a Fault Reset.
2 LOCAL/ REMOTE: used to switch between local and remote control of the drive.
3 ESC: used to quit a menu/ parameter or remove the currently displayed value in order to revert to the previous value retained in the memory.
4 F1 to F4: used to access drive 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

Altivar Process 600 Quick Reference Guide

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	My Menu	Modified Parameters
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	This menu contains the parameters selected in the (My menu config.) MyC- Menu	This menu gives a quick access to the 10 last modified parameters

2 Dashboard

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

3 Diagnostics

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

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

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

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

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Main Menu
4.1 Energy parameters
4.2 Pump dashboard
4.3 Pump parameters
4.4 Motor parameters
4.5 Drive parameters
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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 estm	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 estm
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

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

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

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

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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 Mainenance
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	

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