

What are the main parameters on TeSysT ?

I- Type of publication

☐	Typical application
☒	Best know Method (BKM)
☐	Troubleshooting guide

☐	Level 2 use
☐	Internal use
☒	Customer

II- Product

- Product range :

- Product family :

III- Introduction

This document describes you which are the main parameters to control before downloading a configuration on TesysT. You can find a complete description for all functions in the user manual. These Prints Screen match with PowerSuite V2.5.0.0 and Patch V2.1 available on Schneider electric website.

IV- Description

■ Product Settings

**Select current range, Network and Control voltage.
If AC control voltage, set the Input configuration according to Control voltage**

Controller	
Reference Catalog	Not Known
Firmware	Not Known
Control Voltage	Not Known
Digital I/O	Not Known
State	Not Connected

Device Settings	
Current Range	0.4 - 8 A
Network	Modbus
Control Voltage	24 V DC
Input Configuration	None

Note: The configuration of the inputs is necessary to optimize the response of the #
Frequency and Voltage of the control source is not known, the inputs configuration

LTM CONF Disconnected

■ Motor and Control Settings 1/3

Motor Settings

Motor parameters

Motor Operating Mode

Nominal Voltage 400 Volts **Phase Sequence** A-B-C

Phases ☐ 1 Phase ☒ 3 Phase

Nominal Power 7,5 kiloWatts 10,05 Horsepower

Operating Mode 3 Wire Independent **Custom ID** 256

☐ Direct Transit **Transit Time** 1,0 Seconds

Rapid Cycle Lockouts 0 Seconds

☐ **Star-Delta**

Step 1 to Step 2 Level 150 % FLC

Step 1 to Step 2 Time 5,0 Seconds

Contactor Rating 810,0 Amps

Control Mode

For each operating mode:

- 2w Control: maintained
- 3 w Control: impulse

If Custom operating mode, set the Custom ID of your Custom logic

Allow automatic transitions for:

- reverser (Forward ↔ Reverser)
- 2 speed (Low ↔ High)

After count down of Transit Time

To limit the number of starts during a short period by imposing a timeout between 2 consecutive starts (0= no restriction).

Optional parameter. Limit the max FLC setting to the Contactor rating
If unused, keep the value by default (810A)

Link of 2 step operating mode if star delta

For 2 step operating mode: Transit time starts counting down upon the earlier of the 2 parameters

Note: important parameters in red

■ Motor and Control Settings 2/3

Local terminal trip inputs via hard wired input devices or Local HMI commands via HMI port
 Bump: O1 and O2 are opened or remain open when changing control mode
 Bumpless: O1 and O2 keep their original position when changing control mode

Motor Settings

Control Mode

Local Control Terminal Strip **Transfer Mode** Bump

Note: The behavior of the Bump transfer function can be affected by communication networks with cyclic data exchange. Following a Bump transfer the LTMR can indeed restart the motor automatically due to the cyclic communication. The PLC application program must take this into account to avoid unexpected motor starts.

Reset Mode

Reset Mode Manual

Auto group1
 No of Resets Automatic Reset Time 480 Seconds

Auto group2
 No of Resets 0 Reset Time 1200 Seconds

Auto group3
 No of Resets 0 Reset Time 60 Seconds

Load CT Ratio

Select Reset mode according to your need to Manual, Automatic or Remote
 When Reset Mode set on Automatic set the parameters for each group. See group definition in the User manual

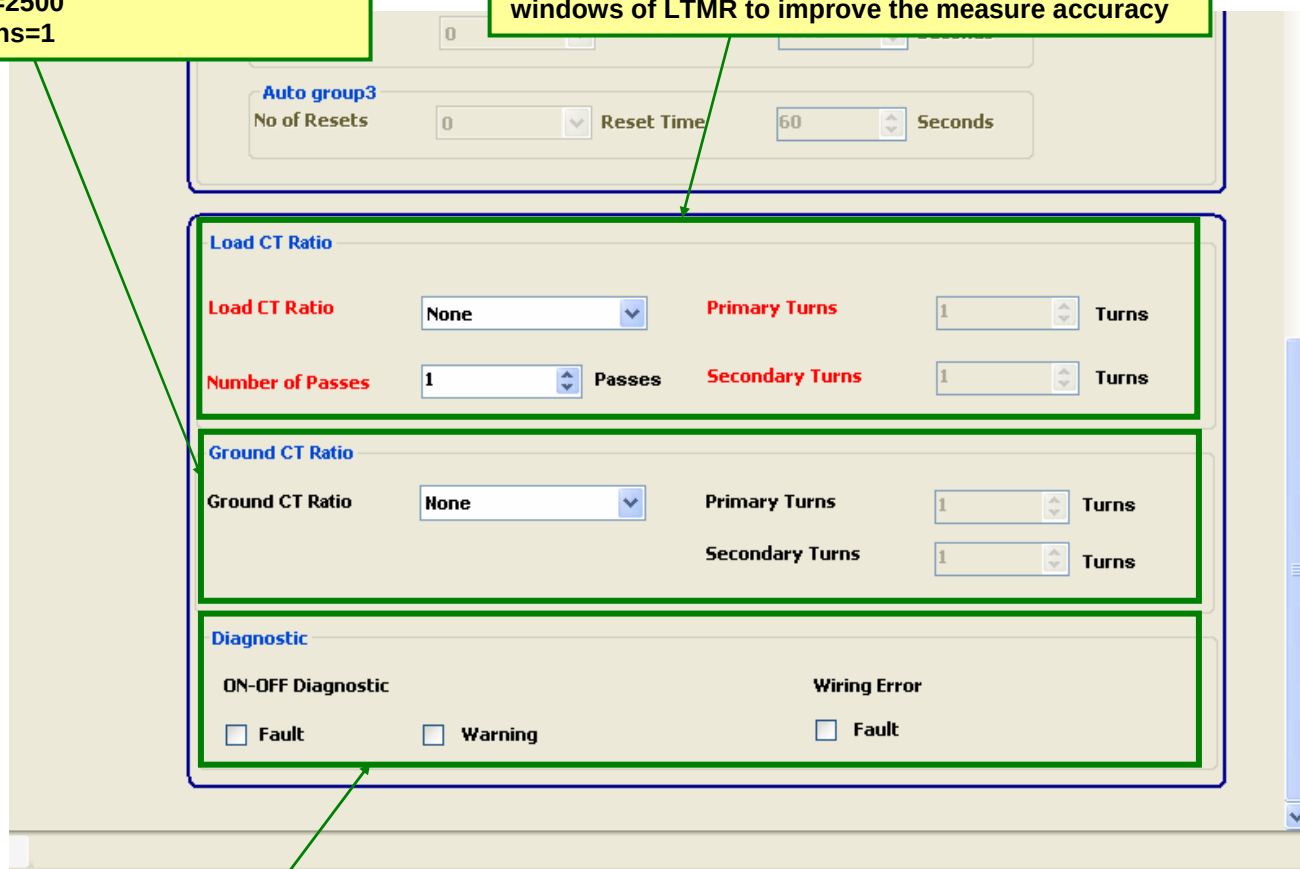
Note: important parameters in red

■ Motor and Control Settings 3/3

Note: important parameters in red

•If internal ground fault detection, select None
•If external ground fault detection, select the CT ratio in the list or select other ratio and type your CT values
Example: 2500:1
→primary turns=2500
→secondary turns=1

•If internal CT use, select None
•If external CT use, select the CT ratio in the list or Select other ratio and type your CT values
Example: 250:1 →primary turns:250; second. turns:1
Select the number of passes you have done in the CT windows of LTMR to improve the measure accuracy



The screenshot shows the 'Auto group3' settings page. At the top, there are fields for 'No of Resets' (0) and 'Reset Time' (60 Seconds). Below this is the 'Load CT Ratio' section, which includes 'Load CT Ratio' (None), 'Primary Turns' (1), 'Number of Passes' (1), and 'Secondary Turns' (1). The 'Ground CT Ratio' section is similar, with 'Ground CT Ratio' (None), 'Primary Turns' (1), and 'Secondary Turns' (1). The 'Diagnostic' section at the bottom has two columns: 'ON-OFF Diagnostic' with 'Fault' and 'Warning' checkboxes, and 'Wiring Error' with a 'Fault' checkbox. Green boxes and arrows highlight the CT ratio and turns settings, and the diagnostic checkboxes.

Wiring Error detects:

- CT reversal wiring
- Phase configuration fault
- Motor temperature sensor wiring fault

ON-OFF Diagnostic detects Control/command problems:
(Start Command Check, Run Check Back, Stop Command Check ,Stop Check Back)

■ Thermal Settings 1/2

- **Inverse thermal:** I^2t principle. Use this selection by default
- **Definite time:** only for special use. With this setting, the long start protection must be enabled

- Parameters linked to Define time Trip type
- DefDtime: delay of the protection function. Bypassed during start stage.
 - DefOtime: overcurrent time

If selected, divide the cooling period by 4 in Inverse thermal only

Adapt the trip class according to the motor application

Thermal Overload

Trip Type InverseThermal

Trip Class 5

FLC1 5 % 00,40 Amps

FLC2 5 % 00,40 Amps

Enable

☒ Warning Warning Level

☐ Fault Reset Level

Aux Fan Cooled ☐

Def D-Time 10 Seconds

Def O-Time 10 Seconds

85 % Thermal Capacity

75 (%) Trip Level

FLC setting:
 FLC1: Motor Full Load Current
 FLC2: Motor High Speed Full Load Current
 These parameters are linked to product range, Load CT ratio, number of passes and contactor rating.
 Scroll up or down the % of FLC to obtain the close value in Amps

Reset level = after thermal trip, possible to restart motor only if thermal capacity under this level
 Adapt parameters according to your application

Note: important parameters in red

■ Thermal Settings 2/2

Fault & warning validation

Select type of sensor

Motor Temperature Protection

Motor Temperature Protection

Enable

☐ Fault

☐ Warning

PTC/NTC analog

None

PTCBinary

PT100

PTCAnalog

NTCAnalog

Fault Level

Warning Level

200 (Ohms)

Pt100

Fault Level

0 Deg C

Warning Level

0 Deg C

Select Fault & Warning level according to application (Motor)

■ Protection setting principle

Protection name

Fault time: Delay for the Fault signalling

Jam

☒ Fault

☐ Warning

Fault Time

5 Seconds

Fault Level

200 (% FLC)

Warning Level

200 (% FLC)

Fault & Warning validation

Fault level: signals a fault after time delay if level crossed over

Warning level: signals a warning without time delay if level crossed over

Note: principle identical for other current, voltage, power and power factor protection

■ Communication setting

The screenshot displays the 'Communication Settings' window with two main sections: 'Network' and 'HMI'.

Network Section:

- Address:** 1
- Baudrate:** AutoBaud
- Parity:** Even
- Byte order:** Bigendian (selected), Littleendian
- Configuration Control:** ☒ (checked)
- Fall Back:** L01_L02_OFF
- Comm Loss:**
 - ☐ Fault
 - ☐ Warning
 - Fault Time:** 60,00 Seconds

HMI Section:

- Address:** 1
- Baudrate:** 19200
- Parity:** Even
- Byte order:** Bigendian (selected), Littleendian
- HMI Control:** ☒ (checked)
- PowerSuite control:** ☒ (checked)
- Fall Back:** L01_L02_OFF
- Comm Loss:**
 - ☐ Fault
 - ☐ Warning

Display Settings: (partially visible at the bottom)

Note : Same principle for HMI setting

■ HMI Display setting

The screenshot shows the 'Communication Settings' window with the 'Display Settings' tab selected. A green box labeled 'Contrast of display' points to the 'Contrast' dropdown menu, which is set to '5'. Another green box labeled 'HMI Language selection' points to the 'Language' dropdown menu, which is set to 'English'. Below these, there are three main sections: 'Thermal overload', 'Current', and 'Voltage'. Each section has a 'Display All' checkbox and several specific parameter checkboxes. The 'Current' section has 'Average Current' and 'Current Phase Imbalance' checked. The 'Voltage' section has 'Average Voltage' and 'Voltage Phase Imbalance' checked. The 'Power' section has 'Display All' checked. The 'Status' section has 'Display All' checked. The 'Motor Run LED' is set to 'Red'.

Contrast of display

HMI Language selection

Communication Settings

Display Settings

☐ Display All Contrast 5 Language English

Motor Run LED ☒ Red ☐ Green

Thermal overload

☐ Display All

☐ Thermal Capacity

☐ Thermal Capacity Remaining

☒ Time to Trip

☐ Control Mode

☐ Temperature Sensor

☒ °C ☐ F

Current

☐ Display All

☒ Average Current

☐ L1 Current

☐ L2 Current

☐ L3 Current

☐ L1 Current Ratio

☐ L2 Current Ratio

☐ L3 Current Ratio

☐ Average Current Ratio

☒ Current Phase Imbalance

☐ Ground Current

☐ Start Stats

Voltage

☐ Display All

☐ Average Voltage

☐ L1-L2 Volts

☐ L2-L3 Volts

☐ L3-L1 Volts

☐ Voltage Phase Imbalance

Power

☐ Display All

☐ Power Factor

☐ Active Power

☐ Reactive Power

☐ Power Consumption

Status

☐ Display All

☐ Date

☐ Time

☐ Operating Time

☐ Frequency

☐ Start Per Hour

☐ Motor Status

Display Selection by parameter type

Note: it is more efficient to select a short list of relevant parameters rather than selecting too much parameters