Operating Parameters 15

Content

The following sections give an overview of the SENTRON T 7KG9661 operating parameters.

15.1	Process Connections	192
15.2	Automation Functions	196
15.3	Administrative	197

15.1 Process Connections

The following process connections are available:

- AC Measurement
- DC Analog Outputs
- Binary Outputs
- LEDs

15.1.1 AC Measurement

Parameter	Default settings	Setting range
Network type	4-wire, 3-phase, unbalanced	1-phase network; 3-wire, balanced; 3-wire, unbalanced (2 * I); 3-wire, unbalanced (3 * I); 4-wire, balanced; 4-wire, unbalanced
Rated input voltage	P-N: AC 400 V, P-P: AC 690 V	P-N: AC 63.5 V, P-P: AC 110 V; P-N: AC 110 V, P-P: AC 190 V; P-N: AC 230 V, P-P: AC 400 V; P-N: AC 400 V, P-P: AC 690 V
Voltage transformer	no	yes; no
Primary rated voltage P-P	AC 10,000 V	AC 100.0 V to AC 1,000,000.0 V
Secondary rated voltage P-P	AC 100 V	AC 1.0 V to AC 600.0 V
Rated input current	AC 5 A	AC 1 A; AC 5 A
Current transformer	no	yes; no
Primary rated current	AC 1,000 A	AC 1.0 A to AC 100,000 A
Secondary rated current	AC 1 A	AC 0.001 A to AC 10.0 A
Calculate Vn	yes	yes; no
Zero point suppression	0.3 %	0.0 % to 10.0 %

15.1.2 DC Analog Outputs

Parameter	Default setting	Setting range
Measurand	none	none; Va; Vb; Vc; Vab; Vbc; Vca; Ia; Ib; Ic; Vn; Vsum; I0, Isum; Pa; Pb; Pc; P; Qa; Qb; Qc; Q; Sa; Sb; Sc; S; cos Φ (a); cos Φ (b); cos Φ (c); cos Φ; PFa; PFb; PFc; PF; Φa; Φb; Φc; Φ; Freq
Output range	-20 mA to 20 mA	0 mA to 20 mA; 4 mA to 20 mA; -20 mA to +20 mA; 0 V to 10 V -10 V to +10 V
Function	Linear	Linear; Linear with knee-point
Measurand from [1)] (unit according to measured value)	0.0	-1,000,000.0 to 1,000,000.0
Measurand to [1)] (unit according to measured value)	100.0	-1,000,000.0 to 1,000,000.0
Knee-point measurand[1)] (unit according to measured value)	0.0	-1,000,000.0 to 1,000,000.0
Knee-point output (unit according to measured value)	0.0	-20 mA to +20 mA or -10 V to +10 V

[1)] "Measured value from" ≤ "Knee-point measured value" ≤ "Measured value to"

15.1.3 Binary Outputs

Parameter	Default setting	Setting range
Source type	Indication	Indication; Energy counter
Indication	-none-	none; Device OK; Battery Failure; Settings Load; Settings Check; Settings Activate; Modbus TCP OK; Ethernet Link Error; Modbus Serial OK; Time Synchronization Error; Primary NTP Server Error; Secondary NTP Server Error; Daylight Saving Time; Default IP Address; AOx@Brd1 Load AOx@Brd1 Common Mode Error; AOx@Brd1 Temperature Error; AOx@Brd1 Error; Limit Violation y; Indication 1 from Remote; Indication 2 from Remote
Source inverted	no	no; yes
Operating mode [1)]	Persistent	Persistent; Persistent with fail safe; Pulse; Pulse with retrigger
Energy increase per pulse [2)]	1.0 Wh	0.1 Wh / VAh / varh to 1,000,000 Wh / VAh / varh
Output time pulse operating mode [3)]	20 = 200 ms	50 ms to 3,600,000 ms

x = 1 to 4

y = 1 to 16, user-defined name, if assigned (see Section 15.2)

[1)] only if source type = indication

[2)] only if pulse output or source type = energy counter

[3)] only if source type = energy counter

15.1.4 LEDs

LED	Default setting	Setting range
RUN	Device ready	not settable
ERROR	Error	not settable
H1 H2	Not assigned	none; Device OK; Battery Failure; Settings Load; Settings Check; Settings Activate; Modbus TCP OK; Ethernet Link Error; Modbus Serial OK; Time Synchronization Error; Primary NTP Server Error; Secondary NTP Server Error; Daylight Saving Time; Default IP Address; AOx@Brd1 Load AOx@Brd1 Common Mode Error; AOx@Brd1 Temperature Error; AOx@Brd1 Error; Limit Violation y; Indication 1 from Remote; Indication 2 from Remote
Source inverted	no	no; yes

x = 1 to 4

y = 1 to 16, user-defined name, if assigned (see Section 15.2)

15.2 Automation Functions

The following automation functions are available:

- Limit violation 1-8
- Limit violation 9-16

Parameter	Default setting	Setting range
Measurand	-none-	none; Va; Vb; Vc; Vab; Vbc; Vca; Ia; Ib; Ic; Vn; Vsum; I0; Isum; Pa; Pb; Pc; P; Qa; Qb; Qc; Q; Sa; Sb; Sc; S; cos Φ (a); cos Φ (b); cos Φ (c); cos Φ; PFa; PFb; PFc; PF; Φa; Φb; Φc; Φ; Freq
Limit	0.0	-1,000,000 to 1,000,000 (unit)
Limit type	Lower	Lower; Upper
Hysteresis (%)	1.0	0.0 to 10.0
Violation indication	Limit Violation x (x = 1 to 16)	The name of the limit value indication is customizable.

x = 1 to 16

15.3 Administrative

The following administrative settings are available:

- Time Synchronization
- Ethernet Communication
- Communication Serial
- Device and Language

15.3.1 Time Synchronization

Parameter	Default setting	Setting range
Source of time synchronization	Internal	Internal; Ethernet NTP; Fieldbus
Time zone offset to UTC	+00:00	-12 to +13 (hours) (in increments of 0.5 h)
Daylight saving time switchover	yes	no; yes
DST offset to UTC	+01:00	0 to + 2 (hours) (in increments of 0.5 h)
Start of DST	March Last week Sunday 02:00 AM	January to December; First week; Second week; Third week; Fourth week; Last week; Sunday to Saturday; 0:00 to 23:00 (full hour)
End of DST	October Last week Sunday 03:00 AM	January to December; First week; Second week; Third week; Fourth week; Last week; Sunday to Saturday; 0:00 to 23:00 (full hour)
Additional parameters if the source is Ethernet NTP		
Primary NTP server IP Address	192.168.0.254	Any
Secondary NTP server IP Address	192.168.0.253	Any, no polling of the NTP server if 0.0.0.0 was entered
Error indication after	10 min	2 min to 120 min
Additional parameters if source is fieldbus		
Error indication after	10 min	2 min to 120 min

15.3.2 Ethernet Communication

Parameter	Default setting	Setting range
IP Address [1)]	192.168.0.55	any
Subnet mask [1)]	255.255.255.0	any
Default gateway [1)]	192.168.0.1	any
Bus protocol	Modbus TCP	Modbus TCP, -none-
Modbus TCP		
Use a user-port number [2)]	no	no, yes
User port number [2)]	10000	10000 to 65535
Access rights for user port	Full	Full, Read only
Access rights for user port 502	Full	Full, Read only
Keepalive time	10 s	0 s = switch off 1 s to 65,535 s
Communication supervision time	600 * 100 ms	0 s = none 100 ms to 6,553,400 ms

[1)] After the parameter changes have been enabled, the device resets.

[2)] After enabling the parameter changes, any currently active Modbus TCP connections will be closed. The Modbus TCP client must later re-open these connections.

15.3.3 Communication Serial

Parameter	Default setting	Setting range
Bus protocol	Modbus RTU	Modbus RTU, -none-
Modbus RTU		
Device address (Server address)	1	1 to 247
Baud rate	19,200 bit/s	9,600 bit/s; 19,200 bit/s; 38,400 bit/s; 57,600 bit/s
Parity	Even	None, 1 stop bit; Even; Odd, None, 2 stop bits
Access rights	Full	Full; Read only
Communication supervision time	600 * 100 ms	0 s = none; 100 ms to 6,553,400 ms

15.3.4 Device and Language

Parameter	Default setting	Setting range
Device name	SENTRON 7KG966	max. 32 characters
Language	ENGLISH (US)	ENGLISH (US), DEUTSCH (DE)
Date/time format	YYYY-MM-DD, Time with 24 hours	YYYY-MM-DD, Time with 24 hours; YYYY-MM-DD, Time with 12 h AM/PM; DD-MM-YYYY, Time with 24 hours; DD-MM-YYYY, Time with 12 h AM/PM; MM/DD/YYYY, Time with 24 hours; MM/DD/YYYY, Time with 12 h AM/PM
Activation password	000000	Any 6 to 14 keyboard characters
Maintenance password	311299	Any 6 to 14 keyboard characters