Datasheet: com.tom SGIM

The com.tom SGIM device is a ready-to-use industrial grade **S**mart **G**rid **I**nterface **M**odule for Cable Distribution Cabinets and Low-voltage Switchear Combinations. Its integrated gateway and edge cloud controller connects the power distribution with the internet enabling Smart Grid applications.

SGIM is a modular concept offering basic functions which can be extended by adding optional SGIM function modules.
The installation in the distribution cabinet is supporting by plug & play. Compatibility with the 185mm busbar system and a simply wall mount option support common practice mounting processes and the use of standard tooling.

Basic Hardware Features:

- CPU Modul with internet gateway, LAN connection and extension interface for modbus sensors/actors
- Two channel 3-phase Measuring Module with Rogowski coil sensors
- 230V power plug for equipment supply (1.200W max.)

Optional Hardware Function Modules:

- Two channel 3-phase Measuring Module with Rogowski coil sensors
- One channel 4-phase Measuring Module with Rogowski coil sensors for neutral conductor measurement
- Two channel 3-phase Measuring Module with Current Transformer sensors
- One channel 4-phase Measuring Module with Current Transformer sensors for neutral conductor measurement
- UMTS Modem for Internet Connection
- Fibre Optic Module for Internet Connection
- I/O Module for connection of sensors and actors

Basic Software Features:

- Automatic recognition of connected measurement modules and sensors
- Automatic registration in the portal when connected to the internet and start of data transfer
- Data Transfer to internet portal according to trigger conditions for each connected measurement module
    - 3-phase voltage and current, grid frequency and power factor
    - 3-phase active-, reactive- and apparent power
    - 3-phase electricity meter for active energy
- E-mail alarming when reaching defined limit values

Optional Software Features:

- Telecontrol compliance with IEC 60870-5-104 or IEC 61850 protocoll
- customer specific portal visualization, unlimited automation & control functions

Beck IPC GmbH
Nauborner Straße 184
35578 Wetzlar/Germany

E-Mail: info@beck-ipc.com
www.beck-ipc.com
www.com-tom.de

Compliance and Conformity

The SGIM Smart Grid Interface Module meets the following directives and standard(s):

- Electromagnetic Compatibility Directive (EMC) 2014/30/EU
- Low-voltage directive (LVD) 2014/35/EU
- Radio Equipment Directive (RED) 2014/53/EU
- Restriction of Hazardous Substances (RoHS 2) Directive 2011/65/EU

Immunity

Enclosure			
	IEC 61000-4-2	4 kV / 8 kV	B
	IEC 61000-4-3	10 V/m (80 MHz bis 1 GHz)	A
		3 V/m (1,4 GHz bis 2 GHz)	A
		1 V/m (2,0 GHz bis 2,7 GHz)	A
AC-supply			
	IEC 61000-4-11	0 % while 1 period	B
		40 % while 10/12 periods	C
		70 % while 25/30 periods	C
		0 % during 250/300 periods	C
	IEC 61000-4-4	2 kV (5/50 ns, 5 kHz)	B
	IEC 61000-4-5	1 kV (Line against line) / 2 kV (to earth)	B
	IEC 61000-4-6	3 V (150 kHz bis 80 MHz)	A
All other Signals with cable length > 3m (Input / output terminal)			
	IEC 61000-4-4	2 kV (5/50 ns, 5 kHz)	B
	IEC 61000-4-5	1kV (Line against line) / 2kV (to earth)	B
	IEC 61000-4-6	3 V (150 kHz bis 80 MHz)	B

Emission

Enclosure			
	CISPR 11 / 16	30–230 MHz; 30dB(µV/m) QP /10m	B
		230MHz–1 GHz; 37dB(µV/m) QP /10m	A
		3 V/m (1,4 GHz bis 2 GHz)	A
		1 V/m (2,0 GHz bis 2,7 GHz)	A
Telecommunications	CISPR 22	150kHz–0,5MHz, 84-74dB(µV) QP, 74-64dB(µV) AV	
(Network port - Ethernet)		0,5 MHz – 30 MHz, 74 dB(µV) Q, 64 dB(µV) AV	

Directive compliance

Product Standard	IEC 61557-12
EMC	EN 61326-1:2013
Low Voltage	EN 61010-1:2010 (attachement F)
	EN 61010-2-030:2010
Radio Equipment (RED)	EN 300 328 / 301 893 / 301 908

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