

Silicion Solar Irradiance Sensor with CANopen

Ingenieurbüro Mencke & Tegtmeyer GmbH - Meßgeräte für die Solartechnik Hameln, 18 January 2011
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Protocol Specification for Si-CANopen-T, Si-CANopen-2T, Si-CANopen-2T-v

The silicon irradiance sensors Si-CANopen-T, Si-CANopen-2T, Si-CANopen-2T-v do support a CANopen protocol according to CiA 437.

References:

CiA Work Draft 301
CiA Draft Standard Proposals 305
CiA Work Draft 437-1
CiA Work Draft 437-2
CiA Work Draft 437-3

Baud rate:

Supported baud rates: 50 kB, 125 kB, 250 kB / Default baud rate: 125 kB

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Object Dictionary:

Index [h]	Sub-index [h]	Description	Acc.	PDO mapp.	Data Type	Default Value	Range	Unit	Comment
1000		Device Type	R	N	UINT32	0x404001B5, 0x404001B5			Default value depends on sensor type
1001		Error Register	R	N	UINT8				
1008		Manufacturer Device Name	R	N	STRING	Si-CANopen-T, Si-CANopen-2T, Si-CANopen-2T-v			Default value depends on sensor type
1009		Manufacturer Hardware Version	R	N	STRING				
100A		Manufacturer Software Version	R	N	STRING				
1010		Store Parameters	W	N					
1011		Restore Default Parameters	W	N					
1017		Producer Hardbeat Time	R/W	N	UINT16	0	0..65535	ms	
1018	00	Highest Sub Index	R	N	UINT8	4			
	01	Vendor ID	R	N	UINT32	0x00000262			
	02	Product Code	R	N	UINT32	0x00000001			
	03	Revision Number	R	N	UINT32	0x00010001			
	04	Serial Number	R	N	UINT32				
1800	00	Highest Sub Index	R	N	UINT8	5			
	01	COB-ID	R/W	N	UINT32	NodeID + 180x			
	02	Transmission Type	R/W	N	UINT8	FF	FF		
	03	Inhabit Time	R/W	N	UINT16	0	0..65535	ms	
	04	Compatibility Entry	R/W	N	UINT8	0	0		
	05	Event Timer	R/W	N	UINT16	2000	0..65535	ms	
1801	00	Highest Sub Index	R	N	UINT8	5	5		
	01	COB-ID	R/W	N	UINT32	NodeID + 280x			
	02	Transmission Type	R/W	N	UINT8	FF	FF		
	03	Inhabit Time	R/W	N	UINT16	0	0..65535	ms	
	04	Compatibility Entry	R/W	N	UINT8		0		
	05	Event Timer	R/W	N	UINT16	0	0..65535	ms	
1A00	00	Highest Sub Index	R/W	N	UINT8	2	1..4		
	01	PDO Mapping Entry	R/W	N	UINT32	0x607B0110			Irradiation
	02	PDO Mapping Entry	R/W	N	UINT32	0x60780110			Cell Temperature
1A01	00	Highest Sub Index	R/W	N	UINT8	2	1..4		
	01	PDO Mapping Entry	R/W	N	UINT32	0x60780210			External Temperature Sensor (optional)
	02	PDO Mapping Entry	R/W	N	UINT32	0x60E00110			Wind Speed Sensor (optional)
6078	00	Highest Sub Index	R	N	UINT8	2	2		
	01	Cell Temperatur	R	Y	UINT16		-25..+75	°C	Offset -700, in 0.1 °C
	02	Additional Temperature	R	Y	UINT16		-25..+75	°C	Offset -700, in 0.1 °C (optional)
607B		Irradiation Power	R	Y	UINT16		0..1400	W/m ²	In W/m ²
60A0		Analog input	R	Y	UINT16		0..65535		Reserved
60E0		Wind Speed	R	Y	UINT16		0..80	m/s	In 0.1 m/s (optional)