

Information

Changes and errors excepted
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SmartACK

Application

SmartACK communication technology allows the buildings system to send back data to batteryless EasySens sensor or device, i.e. SR06LCD's set point override. Using SmartACK, the device is able to retrieve data such as status notifications or new configuration parameters. To use SmartACK, both communicating devices must support the Smart Acknowledge technology

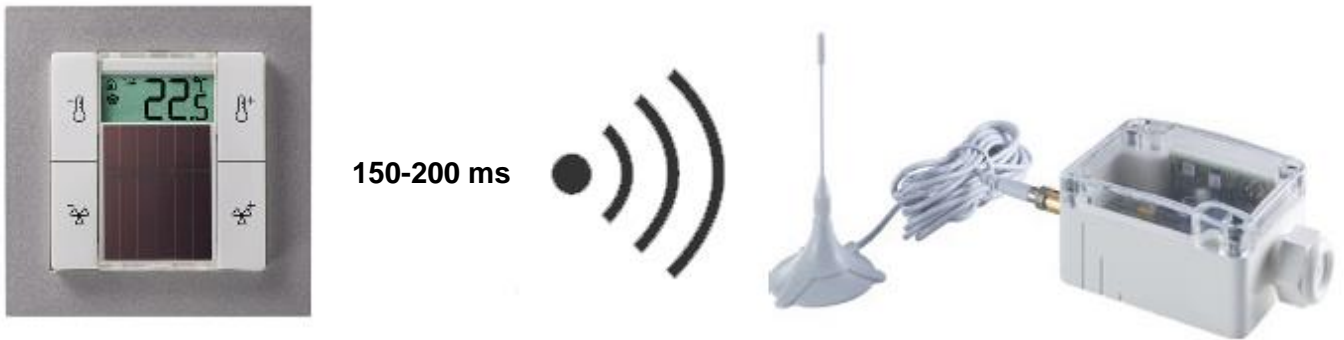
Principle

SmartACK technology operates in three steps:

1. The Sensor wakes up and sends its measured value, if a significant change of value has been recognised and then falls asleep after transmission.



- The Gateway receives the telegram from the sensor and sends it to the building system.
The data to be sent to the sensor are temporarily stored in a buffer memory in the building system.



- The Sensor wakes up and sends a reclaim-telegram after approx.. 150-200 milliseconds. This reclaim-telegram requests that the gateway immediately sends the buffered data. The Sensor switches to receiving mode after sending the reclaim-telegram for 5 milliseconds.



Note


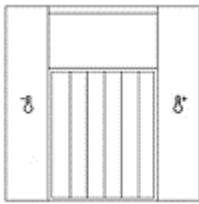
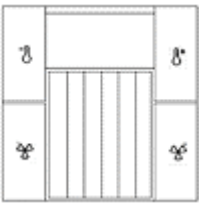




The receiving mode uses more power consumption, than when sending data. To maintain as low energy consumption as possible, the sensor waits for 5 milliseconds for the start of the transmission. If no transmission is detected, the sensor returns to sleep mode for 10-12 milliseconds. When the sensor receives data, e.g. occupancy signal or the operating mode heating/cooling, then the sensor will process this data, before the sensor returning to sleep mode.

Repeater



Thermokon devices with SmartACK can only communicate directly with each other. Repeaters are not supported. SmartACK with Advanced Learn is also not supported.

Overview supported EEPs

	2T / 2T rh	4T / 4T rh type 1	4T / 4T rh type 2	4T / 4T rh type 3
	 A5-10-03: temperature, set point	 A5-10-04: temperature, set point, fan stages	 A5-10-01: temperature, set point, occupancy, fan stages	 A5-10-05: temperature, set point, occupancy
	A5-10-12: temperature, humidity, set point	A5-10-22: temperature, humidity, set point, fan stages	A5-10-23: temperature, humidity, set point, occupancy, fan stages	A5-10-10: temperature, humidity, set point, occupancy
	D2-11-01 D2-11-02 (+ rH)* temperature, *humidity, set point	D2-11-03 D2-11-04 (+ rH)* temperature, *humidity, setpoint, fan stages	D2-11-05 D2-11-06 (+ rH)* temperature, *humidity, set point, fan stages, occupancy	D2-11-07 D2-11-08 (+ rH)* temperature, humidity, set point, fan stages

A5-10-22 / A5-10-23

Telegram definition

R-ORG	A5	4BS Telegram
FUNC	10	Room Operating Panel
TYPE	22	Temperature, Setpoint, Humidity, Fan Speed

Offset	Size	Bitrange	Data	ShortCut	Description	Valid Range	Scale	Unit
0	8	DB3.7 ... DB3.0	Setpoint	SP	Setpoint (linear) Min.- ... Max+	0 ... 255	0 ... 255	N/A
8	8	DB2.7 ... DB2.0	Humidity	HUM	Rel. Humidity (linear)	0 ... 255	0 ... 100	%
16	8	DB1.7 ... DB1.0	Temperature	TMP	Temperature (linear)	0 ... 255	0 ... +40	°C
24	3	DB0.7 ... DB0.5	Fanspeed	FAN	Fanspeed	Enum: 0: Auto 1: Speed 0 / OFF 2: Speed 1 3: Speed 2 4: Speed 3 5 ... 7: Reserved		
27	1	DB0.4	Not Used (= 0)					
28	1	DB0.3	LRN Bit	LRNB	LRN Bit	Enum: 0: Teach-In Telegram 1: Data Telegram		
29	3	DB0.2 ... DB0.0	Not Used (= 0)					

R-ORG	A5	4BS Telegram
FUNC	10	Room Operating Panel
TYPE	23	Temperature, Setpoint, Humidity, Fan Speed, Occupancy

Offset	Size	Bitrange	Data	ShortCut	Description	Valid Range	Scale	Unit
0	8	DB3.7 ... DB3.0	Setpoint	SP	Setpoint (linear) Min.- ... Max+	0 ... 255	0 ... 255	N/A
8	8	DB2.7 ... DB2.0	Humidity	HUM	Rel. Humidity (linear)	0 ... 255	0 ... 100	%
16	8	DB1.7 ... DB1.0	Temperature	TMP	Temperature (linear)	0 ... 255	0 ... +40	°C
24	3	DB0.7 ... DB0.5	Fanspeed	FAN	Fanspeed	Enum: 0: Auto 1: Speed 0 / OFF 2: Speed 1 3: Speed 2 4: Speed 3 5 ... 7: Reserved		
27	1	DB0.4	Not Used (= 0)					
28	1	DB0.3	LRN Bit	LRNB	LRN Bit	Enum: 0: Teach-In Telegram 1: Data Telegram		
29	3	DB0.2 ... DB0.0	Not Used (= 0)					
31	1	DB0.0	Occupancy	OCC	Occupancy	Enum: 0: Unoccupied 1: Occupied		

D2-11-0X

Telegram definition



For SR06 LCD from version: 2.0 (from 1 february 2016)

R-ORG	D2	VLD Telegram
FUNC	11	Room Operating Panel
TYPE	0X	Temperature, Setpoint, Humidity, Fan Speed, Occupancy

Parameter Overview

Type	01	02	03	04	05	06	07	08
Temperature measurement	X	X	X	X	X	X	X	X
Setpoint	X	X	X	X	X	X	X	X
Humidity measurement	-	X	-	X	-	X	-	X
Fan speed	-	-	X	X	X	X	-	-
Occupancy	-	-	-	-	X	X	X	X

For the types 0x01, 0x03, 0x05, 0x07 the value of DB3 at message type C will be 0 = not available.

For the types 0x01, 0x02, 0x07, 0x08 the value of DB0.3 ... DB0.1 at message type B and C will be 7 = not available.

For the types 0x01, 0x02, 0x03, 0x04 the value of DB0.0 at message type C has to be 0 = not used.

Message type A / ID 0

Direction: Sensor → Gateway

Offset	Size	Bitrange	ShortCut	Description	Valid Range	Scale	Unit
0	1	DB0.7	SPT	Setpoint type actual used by the device	Enum:	0: Setpoint Offset 1: Temperature Setpoint	
1	3	DB0.6 ... DB0.4	Not Used (=0)				
4	4	DB0.3 ... DB0.0	MID	Message Type A, ID-0	Enum:	0: ID-0 1: ID-1 2: ID-2 3 ... 15 Reserved	

Message type B / ID 1

Direction: Gateway → Sensor

Offset	Size	Bitrange	ShortCut	Description	Valid Range	Scale	Unit
0	1	DB3.7	SPT	Set setpoint type to be used by the device	Enum:	0: Setpoint Offset	
						1: Temperature Setpoint	
1	1	DB3.6	DHS	Set/Clear heating symbol at the display	Enum:	0: Heating symbol off	
						1: Heating symbol on	
2	1	DB3.5	DCS	Set/Clear cooling symbol at the display	Enum:	0: Cooling symbol off	
						1: Cooling symbol on	
3	1	DB3.4	SSW	Set/Clear "windows open" symbol at the display	Enum:	0: "Window open" symbol off	
						1: "Window open" symbol on	
4	4	DB3.3 ... DB3.0	MID	Message Type B, ID-1	Enum:	0: ID-0	
						1: ID-1	
						2: ID 2	
						3 ... 15: Reserved	
8	8	DB2.7 ... DB2.0	OSO	Override Setpoint offset (inear, min. - ... max. +)	0 ... 255	-X ... +X	K
						(valid temperature)	
16	8	DB1.7 ... DB1.0	BSP	Set basesetpoint for visualization of the temp. setpoint	0 ... 14	Reserved	
					15 ... 30	10 ... 30	°C
					31 ... 255	Reserved	
24	4	DB0.7 ... DB0.4	COA	Set valid temperature correction	Enum:	0: Reserved	
						-1 ... +1	K
						-2 ... +2	K
					
						-10 ... +10	K
						11 ... 15: Reserved	
28	3	DB0.3 ... DB0.1	OFS	Override actual Fan Speed	Enum:	0: Auto	
						1: Speed 0	
						2: Speed 1	
						3: Speed 2	
						4: Speed 3	
						5 ... 6: Reserved	
						7: Not available	
31	1	DB0.0	OOS	Override actual Occupancy State	Enum:	0: State Unoccupied	
						1: State Occupied	

Message type C / ID 2

Direction: Sensor → Gateway

Offset	Size	Bitrange	ShortCut	Description	Valid Range	Scale	Unit
0	1	DB5.7	SPT	Setpoint type actual used by the device	Enum:	0: Setpoint Offset	
						1: Temperature Setpoint	
1	2	DB5.6 ... DB5.5	TT	Telegram Trigger	Enum:	0: Heartbeat	
						1: Change of temperature- or humidity value	
						2: User caused parameter change	
3	1	DB5.4	Not Used (=0)				
4	4	DB5.3 ... DB5.0	MID	Message Type C, ID-2	Enum:	0: ID-0	
						1: ID-1	
						2: ID-2	
						3 ... 15: Reserved	
8	8	DB4.7 ... DB4.0	TEMP	Temperature	0 ... 255	0 ... +40	°C
16	8	DB3.7 ... 3.0	HUMI	Humidity	0 ... 250	0 ... +100	%rH
24	8	DB2.7 ... DB2.0	SP	Setpoint shift, linear, (refers to valid setpoint shift at DB0.7 ... DB0.4)	0 ... 255	-X ... +X	K
32	8	DB1.7 ... DB1.0	IBS	Internal basesetpoint, required for setpoint type "temperature setpoint"	Enum:	0 ... 14: Reserved	
						15 ... 30 °C	
						31 ... 255: Reserved	
40	4	DB0.7 ... DB0.4	BSP	Valid temperature correction	Enum	0: Reserved	
						1: -1 ... +1 K	
						2: -2 ... +2 K	
						... K	
						10: -10 ... +10 K	
11 ... 15: Reserved							
44	3	DB0.3 ... DB0.1	FS	Fan Speed	Enum:	0: Auto	
						1: Speed 0	
						2: Speed 1	
						3: Speed 2	
						4: Speed 3	
						5 ... 6: Reserved	
						7: Not available	
47	1	DB0.0	OS	Occupancy State	Enum:	0: State Unoccupied	
						1: State Occupied	