Application Descriptions

Ventilation, Air Conditioning and Cold Water

VAC E-Mode Channels

Summary

This document specifies the standard E-Mode Channels specified for the VAC Application Domains.

Version 01.00.01 is a KNX Approved Standard.

This document is part of the KNX Specifications v2.1.

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Document updates

Version	Date	Modifications
1.0	2010.07.22	• Document creation. • **AN112 "E-Mode Channels for Fan Coils"** integrated.
01.00.01	2013.10.29	Editorial updates for the publication of KNX Specifications 2.1.

References

[01] Chapter 7/1/4 "Technical Alarm"

[02] Chapter 7/10/1 "HVAC Sensor Functional Blocks"

[03] Chapter 7/10/2 "HVAC HMI Functional Blocks"

[04] Chapter 7/10/3 "HVAC Actuator Functional Blocks"

[05] Chapter 7/10/4 "HVAC Common Functional Blocks"

[06] Chapter 7/11/1 "Heat Production"

[07] Chapter 7/13/1 "Controller" (Terminal Unit Functional Blocks)

[08] Chapter 7/14/1 "Ventilation, Air Conditioning"

[09] Chapter 7/14/2 "Cold Water"

Contents

1 Introduction

1.1   KNX structure of the fan coil product
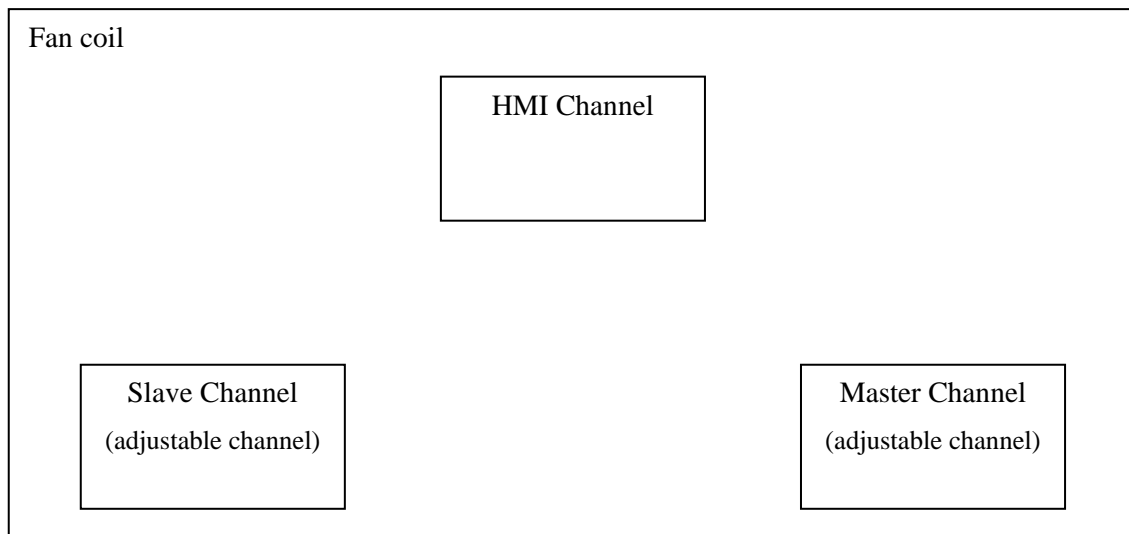
Figure 1 – Fan coil channels

Depending on the configuration of the controller, some channels will be masked and not accessible.

- The HMI channel is accessible inside the controller only if a user terminal is hardwired on the controller. If the user terminal is not integrated in the controller but directly connected to KNX, then the HMI channel will not be available in the controller.

- As a controller can not be a slave and a master at the same time, only one of these E-Mode channel will be available in one controller

Please refer to the examples in clause 1.2.

1.2   Configuration example of a building

Figure 2 – Examples of possible E-Mode Channels in a building

1.3   Output Datapoints affected by Adjustable Channels

The E-Mode Channels below make use of Adjustable Channels. However, in contradiction to other E-Mode Channels, in these E-Mode Channels, also the Connection Codes of Output Datapoints shall change according the AJS parameter value.

2 Channel overview
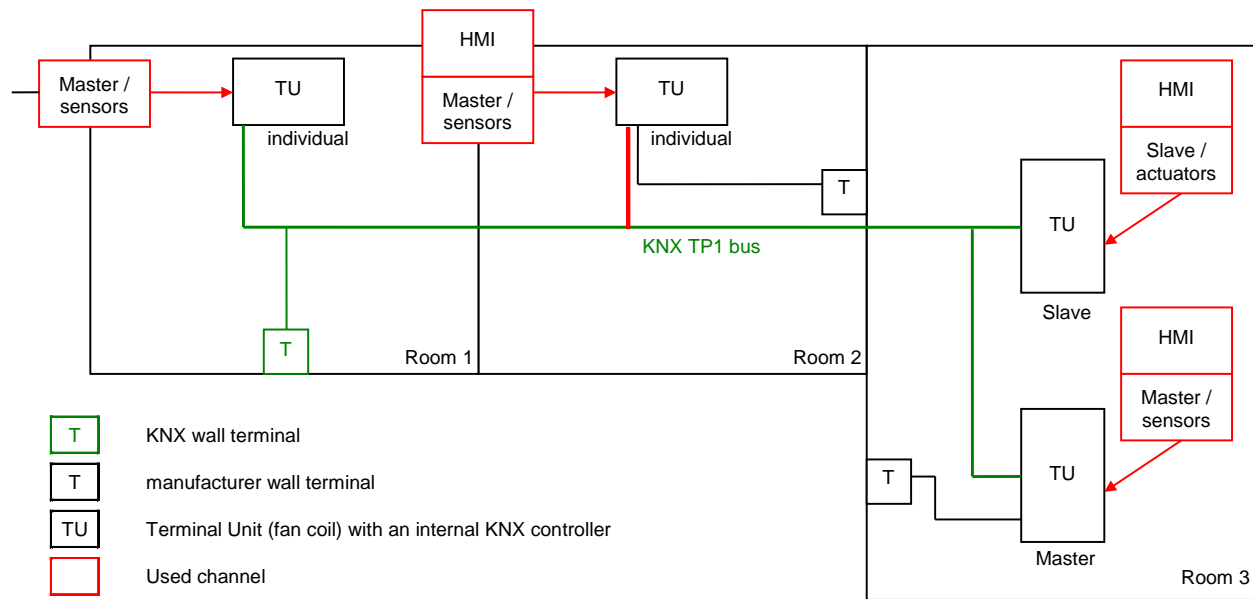
2.1 HMI Channel

This E-Mode Channel shall allow to a final user to set his fan coil

-   with a KNX terminal, or
-   with an internal manufacturer specific terminal (hardwired terminal).

2.2 Master and Slave Channel

2.2.1 Introduction

One controller of a group of related controllers can be programmed to act as master of this group. The rest of the group is then programmed to be slaves.

The relationship between master and slaves can be more or less intensive, depending on the current application. Therefore several possibilities are foreseen in the controllers.

2.2.2 Master Fan Coil Channel

This Master Fan Coil Channel shall be used for any stand-alone or master configuration on a fan coil. Depending on these two types, we used two different operation modes.

1. Stand Alone

   The fan coil shall work alone, independently of any other fan coil

   EXAMPLE   One fan coil in an individual room.

2. Master

   The fan coil shall act as a controller and shall communicate with and control one or more slave fan coils so that a same group can work together.

2.2.3 Slave Channel

Depending on the operation mode, a Slave Fan Coil Channel shall use its own Inputs or the ones from the master. It shall be able to operate in three different operation modes.

1. Slave by hot/cold authorization (HCA)

   This shall be the loosest coupling from a Slave Fan Coil Channel to its Master Fan Channel.

   The Master Fan Coil Channel shall only control whether the Slave Fan Coil Channel shall be in heating mode or cooling mode. The rest of the fan coil functionality is controlled independently by the Slave Fan Coil Channel.

2. Slave by internal temperature (IT)

   This shall be a tighter coupling from a Save Fan Coil Controller to a Master Fan Coil Controller.

   The Master Fan Coil Controller shall give the current temperature and the Slave Fan Coil Controllers shall control their outputs accordingly.

3. Slave by final commands (FC)

   This shall be the tightest coupling from a Slave Fan Coil Controller to a Master Fan Coil Controller.

   The Master Fan Coil Controller shall directly control the outputs of the Slave Fan Coil Controller, which shall not autonomously conclude on any action.

3 CH_FAN_COIL_HMI (Channel Code 0507h)

- **Name:**   CH_FAN_COIL_HMI

- **ID:**   0507h

- **Classification:**   heating actuator

- **Functional Block:**

    - 321 - Room Temperature Sensor (RTS) (See [02].)
    - 384 - User HVAC Room Settings (UHRS) (See [03].)
    - 393 – User Fan Speed Setting (UFS) (See [03].)

- **Graphical representation:**

Inputs   *Outputs*

CH_FAN_COIL_HMI
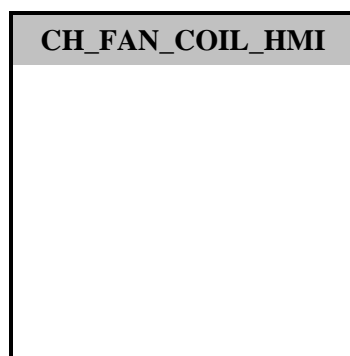
TR	321.TempRoom
TRSUO	384.TempRoomSetpUserOffset
CPB	384.ComfortPushButton
FSU	393.FanSpeedUser
FM	393.FanManual

- **Datapoint list:**

Index	FB / Datapoint ID	Name	Sub-unit	Main CC	Additional CCs	Flags (i/o,x,v…..)
1	321.TR	TempRoom	1	CC_Room_Temperature (37)	---	OL
2	384.TRSUO	TempRoomSetpUserOffset	1	CC_TemperatureD (44)	---	O
3	384.CPB	ComfortPushButton	1	CC_Trigger (45)	---	O
4	393.FSU	FanSpeedUser	1	CC_Fan_Speed (46)	---	O
5	393.FM	FanManual	1	CC_Enable_Fan (47)	---	O

4 CH_MASTER_FANCOIL_CONTROLLER (Channel Code 0508h)

- **Name:**   CH_MASTER_FAN_COIL_CONTROLLER

- **ID:**   0508h

- **Classification:**   heating actuator

- **Functional Block:**

    - 324 - Flow Water Temperature Sensor (FWTS) (See [02].)
    - 342 - Water Change Over Status (WCOS) (See [02].)
    - 343 - Window switch (WOS) (See [02].)
    - 345 - Presence detector (PRD) (See [02].)
    - 104 - Programme to HVAC Mode conversion (PMC) (See [05].)
    - 323 - Return Air Temperature Sensor (RNATS) (See [02].)
    - 328 - Discharge Air Temperature Sensor (DATS) (See [02].)
    - 100 - Room SetPoint Manager HVAC – Mode Driven (RSMHD) (See [05].)
    - 102 - SetPoint Manager Air Quality (SMAQ) (See [05].)
    - 103 - Setpoint Manager Relative Humidity (SMRH) (See [05].)
    - 115 - HVAC Optimiser (HVAC OPT) (See [05].)
    - 258 -Fan Coil Control (Basic Part and Additions for Air Quality) (FCC) (See [07].)
    - 240 - Air Handling Unit Controller (AHUC) (See [08].)
    - 1002 - Alarm Source (ALSrc) (See [01].)
    - 369 - Electrical Heating Element Actuator (EHEA) (See [04].)
    - 352 - HVAC Valve Actuator (HVA) (See [04].)
    - 372 - Fan Speed Actuator (FSA) (See [04].)
    - 362 - Air Damper Actuator (ADA) (See [04].)
    - 199 – Cold Water Producer Manager (CPM) (See [09].)
    - 136 – Heat Producer Manager (HPM) (See [06].)

- **Graphical representation**

Legend:
Info for a controller or a BMS
Remote control which come from some KNX equipments or BMS
Slave or actuators (M/S management)

Inputs

CH_MASTER_FAN_ COIL_CTRL

Outputs

Inputs	Outputs
104.BuildingMode	
104.OccMode	
258.HVACModeOptim	258.EnergyDemAC
258.ContrMode	258.EnergyDemAH
258.EnableHeat	258.EnergyDemAir
258.EnableCool	258.ActPosSetpHeatStageA
258.ChangeOverStatusWater	258.ActPosSetpHeatStageB
258.TempOutside	258.ActPosSetpCoolStageA
258.FanSpeedUser	258.FanSpeedSetp
258.FanManual	258.ActPosSetpFreshAir
258.TempRoom	
258.AQRoom	
240.HumRelRoom	
100.HVACMode	100.HVACModeEff
100.TempRoomSetpSetHeat	100.TempRoomSetpSetHeatEff
100.TempRoomSetpSetCool	100.TempRoomSetpSetCoolEff
100.TempRoomSetpSetHeatShift	
100.TempRoomSetpSetCoolShift	
100.TempRoomSetpUserAbs	
100.TempRoomSetpUserOffset	
100.ComfortPushButton	
100.HVACModeUser	
100.WindowStatus	
100.PresenceStatus	
102.AQSetpUser	102.AQSetpEff
103.HumRelSetpUser	103.HumRelSetpDehumEff
	323.TempReturnAir
	328.TempDischargeAir
	324.TempFlowWater
	345.PresenceStatus
	343.WindowStatus
343.WindowSwitch	343.WindowSwitch
LA.OnOff	LA.InfoOnOff
	S.OnOff

352.ActPosHeatStageA
352.ActPosCoolStageA
369.ElectricalPowerLimitation
369.ActPosHeatStageB
372.FanSpeed
362.ActPosFreshAir
1002.EnableAlarmInfo
1002.InAlarm
1002.EnableAlarmText
1002.AlarmInfo
1002.AlarmAck
1002.AlarmText
199.PRelChiller
CoilConsumptionAC
136.PRelBurner
CoilConsumptionAH
ElectricConsumption
FanConsumption
InfoEnergyDemAC
InfoEnergyDemAH
InfoEnergyDemAir
InfoEnableHeat
InfoEnableCool

__Parameters__
Adjustable select for Master / Slave   AJS

- **Description**

  Explanations about some specifics connections codes

  - Coil consumption AC: This information shall be an estimation of the total thermal consumption of the cooling coil. This value (in kWh), sent to a BMS, will be very useful for a fitter or a manager of a building.

  - Coil consumption AH: This information shall be an estimation of the total thermal consumption of the heating coil. This value (in kWh), sent to a BMS, will be very useful for a fitter or a manager of a building.

  - Electric consumption: This information shall be an estimation of the total electric consumption of the electric heater. This value (in kWh), sent to a BMS, will be very useful for a fitter or a manager of a building.

  - Fan consumption: This information shall be an estimation of the total electric consumption of the fan motor. This value (in kWh), sent to a BMS, will be very useful for a fitter or a manager of a building.

  - PRelProdCool: This shall be information from the BMS or the chiller to indicate the relative power of the cold water production. This value will be taken into account by the fan coil controller to calculate its coil consumption AC.

  - PRelProdHeat: This shall be information from the BMS or the boiler to indicate the relative power of the hot water production. This value will be take into account by the fan coil controller to calculate its coil consumption AH.

Specific information for Master / Slave by final commands:

A slave by final commands (slave by FC) don't have any sensor, the master says exactly what needs to be done. For this reason a slave by FC can't calculate its own energy demand. That's why the Master has to send to slaves by FC their energy demand value by using <u>InfoEnergyDemA</u>C, <u>InfoEnergyDemAH</u> and <u>InfoEnergyDemAir</u>.

Specific information for Master / Slave by hot cold authorisation:

Master / Slave by hot cold authorisation (slave by HCA) is the loosest Master / Slave connection.

In this configuration, the slave has is own sensors, and it is autonomous facing the Master.

To avoid that a fan coil is cooling when another one is heating (or vice versa), the master has to say whether cooling or heating is allowed by using <u>Info Enable Heat</u> and <u>Info Enable Cool.</u>

- **Datapoint list:**

Index	FB / Datapoint ID	Name	Sub-unit	Main CC	Additio-nal CCs	Flags (i/o,x,v…..)
1	104.BM	BuidingMode	1	CC_Building_Mode (62)	---	I
2	104.OM	OccMode	1	CC_Occupancy_Mode (63)	---	I
3	100.HM	HVACMode	1	CC_HVAC_Mode (31)	---	I
4	258.HMO	HVACModeOptim	1	CC_HVAC_Mode_Optim (93)	---	I
5	258.CM	ContrMode	1	CC_Control_Mode (53)	---	I
6	258.EH	EnableHeat	1	CC_Heating_Enabled (33)	---	I
7	258.EC	EnableCool	1	CC_Cooling_Enabled (52)	---	I
8	258.COSW	ChangeOverStatusWater	1	CC_HeatCool (41)	---	I
9	258.TO	TempOutside	1	CC_Temperature_Outside (36)	---	I
10	100.TRSSH	TempRoomSetpSetHeat	1	CC_Temperature_SetpSet_Heat (48)	---	I
11	100.TRSSC	TempRoomSetpSetCool	1	CC_Temperature_SetpSet_Cool (49)	---	I
12	100.TRSSHS	TempRoomSetpSetHeatShift	1	CC_TemperatureD_SetpSet_Heat (50)	---	I
13	100.TRSSCS	TempRoomSetpSetCoolShift	1	CC_TemperatureD_SetpSet_Cool (51)	---	I
14	100.TRSUA	TempRoomSetpUserAbs	1	CC_Temperature_Setpoint (43)	---	I
15	100.TRSUO	TempRoomSetpUserOffset	1	CC_TemperatureD (44)	---	I
16	100.CPB	ComfortPushButton	1	CC_Trigger (45)	---	I
17	100.HMU	HVACModeUser	1	CC_HVAC_Mode_User (61)	---	I
18	258.FSU	FanSpeedUser	1	CC_Fan_Speed (46)	---	I
19	258.FM	FanManual	1	CC_Enable_Fan (47)	---	I
20	102.AQSU	AQSetpUser	1	CC_AQ_Setpoint (56)	---	I
21	103.HRSU	HumRelSetpUser	1	CC_HumRel_Setpoint (58)	---	I

Index	FB / Datapoint ID	Name	Sub-unit	Main CC	Additio-nal CCs	Flags (i/o,x,v…..)
22	258.TR	TempRoom	1	CC_Room_Temperature (37)	---	I
23	258.AQR	AQRoom	1	CC_AQ_Room (55)	---	I
24	240.HRR	HumRelRoom	1	CC_HumRel_Room (57)	---	I
25	100.PS	PresenceStatus	1	CC_Presence_Status (54)	---	I
26	343.WSw	WindowSwitch	1	CC_Window_Switch (84)	---	I
27	100.Wst	WindowStatus	1	CC_Window_Status (30)	---	I
28	LA.OO	OnOff	1	CC_Switch_OnOff (1)	---	I
29	1002.EAI	EnableAlarmInfo	1	CC_Enable_AlarmInfo (59)	---	I
30	1002.EAT	EnableAlarmText	1	CC_Enable_AlarmText (94)	---	I
31	1002.AA	AlarmAck	1	CC_AlarmAck (60)	---	I
32	369.EPL	ElectricalPowerlimitation	1	CC_Elect_Power_Limit (64)	---	I
33	199.PRC	PRelChiller	1	CC_PowerRel_Production_Cool (77)	---	I
34	136.PRB	PRelBurner	1	CC_PowerRel_Production_Heat (78)	---	I
35	258.EDAC	EnergyDemAC	1	CC_EnergyDemAC (95)	---	O
36	258.EDAH	EnergyDemAH	1	CC_EnergyDemAH (96)	---	O
37	258.EDA	EnergyDemAir	1	CC_EnergyDemAir (97)	---	O
38	352.APHSA	ActPosHeatStageA	1	CC_Heating_ValueA_Status (68)	---	OV
39	369.APHSB	ActPosHeatStageB	1	CC_Heating_ValueB_Status (69)	---	OV
40	352.APCSA	ActPosCoolStageA	1	CC_Cooling_ValueA_Status (70)	---	OV
41	372.FS	FanSpeed	1	CC_Fan_Speed_Status (72)	---	OVLA
42	362.APFA	ActPosFreshAir	1	CC_Fresh_Air_Status (71)	---	OV
43	352.CCAC	CoilConsumptionAC	1	CC_Coil_Consumption_AC (75)	---	OV
44	352.CCAH	CoilConsumptionAH	1	CC_CoilConsumptionAH (76)	---	OV
45	369.EC	ElectricConsumption	1	CC_ElectricConsumption (73)	---	OV
46	372.FC	FanConsumption	1	CC_Fan_Consumption (74)	---	OV
47	100.HME	HVACModeEff	1	CC_HVAC_Mode_Status (39)	---	OV
48	100.TRSSHE	TempRoomSetpSetHeatEff	1	CC_Temp_SetpSet_Heat_Status (82)	---	OV
49	100.TRSSCE	TempRoomSeptSetCoolEff	1	CC_Temp_SetpSet_Cool_Status (83)	---	OV
50	102.AQSE	AQSetpEff	1	CC_Air_Quality_Status (85)	---	OV

Index	FB / Datapoint ID	Name	Sub-unit	Main CC	Additio-nal CCs	Flags (i/o,x,v…..)
51	103.HRSDE	HumRelSetpDehumEff	1	CC_HumRelDehum_Status (86)	---	OV
52	323.TRA	TempReturnAir	1	CC_Temperature_Retour_Air (79)	---	OV
53	328.TDA	TempDischargeAir	1	CC_Temperature_Discharge_Air (80)	---	OV
54	324.TFW	TempFlowWater	1	CC_Temperature_Flow_Water (81)	---	OV
55	345.PS	PresenceStatus	1	CC_Presence_Status (54)	---	OV
56	343.WSw	WindowSwitch	1	CC_Window_Switch (84)	---	O
57	343.WSt	WindowStatus	1	CC_Window_Status (30)	---	OV
58	LA / IOO	InfoOnOff	1	CC_Switch_OnOff_Status (2)	---	O
59	S / OO	OnOff	1	CC_Switch_OnOff (1)	---	O
60	1002.IA	InAlarm	1	CC_Alarm (67)	---	OV
61	1002.AI	AlarmInfo	1	CC_AlarmInfo (65)	---	OV
62	1002.AT	AlarmText	1	CC_AlarmText (66)	---	OV
63		InfoEnergyDemAC	1	CC_EnergyDemAC_Status (98)	---	OV
64		InfoEnergyDemAH	1	CC_EnergyDemAH_Status (99)	---	OV
65		InfoEnergyDemAir	1	CC_EnergyDemAir_Status (100)	---	OV
66	258.APSHSA	ActPosSetpHeatStageA	1	CC_Heating_ValueA (35)	---	OV
67	258.APSHSB	ActPosSetpHeatStageB	1	CC_Heating_ValueB (87)	---	OV
68	258.APSCSA	ActPosSetpCoolStageA	1	CC_Cooling_ValueA (88)	---	OV
69	258.FSS	FanSpeedSetp	1	CC_Fan_Speed_Setpoint (90)	---	OV
70	258.APSFA	ActPosSetpFreshAir	1	CC_Fresh_Air_Setpoint (89)	---	OV
71		InfoEnableHeat	1	CC_Enable_Info_Heat (91)	---	O
72		InfoEnableCool	1	CC_Enable_Info_Cool (92)	---	O

- **Parameter table**

Index	Identifier	Name	Recommended default Value	Bit-Offset
1	AJS	Adjustable selection for Master / Slave	0 (Stand alone)	

- **Adjustable table:**

		Selection and Parameter Value				
		Stand Alone	Master	Slave by HCA	Slave by IT	Slave by FC
Datapoint Nr.		0	1	2	3	4
Datapoint 1	Input 1 octet	BM	BM	-	-	-
Datapoint 2	Input 1 octet	OM	OM	-	-	-
Datapoint 3	Input 1 octet	HM	HM	-	-	-
Datapoint 4	Input 1 octet	HMO	HMO	-	-	-
Datapoint 5	Input 1 octet	CM	CM	-	-	-
Datapoint 6	Input 1 bit	EH	EH	-	-	-
Datapoint 7	Input 1 bit	EC	EC	-	-	-
Datapoint 8	Input 1 bit	COSW	COSW	-	-	-
Datapoint 9	Input 2 octets	TO	TO	-	-	-
Datapoint 10	Input 6 octets	TRSSH	TRSSH	-	-	-
Datapoint 11	Input 6 octets	TRSSC	TRSSC	-	-	-
Datapoint 12	Input 6 octets	TRSSHS	TRSSHS	-	-	-
Datapoint 13	Input 6 octets	TRSSCS	TRSSCS	-	-	-
Datapoint 14	Input 2 octets	TRSUA	TRSUA	-	-	-
Datapoint 15	Input 2 octets	TRSUO	TRSUO	-	-	-
Datapoint 16	Input 1 bit	CPB	CPB	-	-	-
Datapoint 17	Input 1 octet	HMU	HMU	-	-	-
Datapoint 18	Input 1 octet	FSU	FSU	-	-	-
Datapoint 19	Input 1 bit	FM	FM	-	-	-
Datapoint 20	Input 2 octets	AQSU	AQSU	-	-	-
Datapoint 21	Input 2 octets	HRSU	HRSU	-	-	-
Datapoint 22	Input 2 octets	TR	TR	-	-	-
Datapoint 23	Input 2 octets	AQR	AQR	-	-	-
Datapoint 24	Input 2 octets	HRR	HRR	-	-	-
Datapoint 25	Input 1 bit	PS	PS	-	-	-
Datapoint 26	Input 1 bit	WSw	WSw	-	-	-
Datapoint 27	Input 1 bit	WSt	WSt	-	-	-
Datapoint 28	Input 1 bit	OO	OO	-	-	-
Datapoint 29	Input 1 bit	EAI	EAI	-	-	-
Datapoint 30	Input 1 bit	EAT	EAT	-	-	-
Datapoint 31	Input 1 bit	AA	AA	-	-	-
Datapoint 32	Input 1 octet	EPL	EPL	-	-	-
Datapoint 33	Input 1 octet	PRC	PRC	-	-	-
Datapoint 34	Input 1 octet	PRB	PRB	-	-	-
Datapoint 35	Output 1 octet	EDAC	EDAC	-	-	-
Datapoint 36	Output 1 octet	EDAH	EDAH	-	-	-
Datapoint 37	Output 1 octet	EDA	EDA	-	-	-
Datapoint 38	Output 1 octet	APHSA	APHSA	-	-	-
Datapoint 39	Output 1 octet	APHSB	APHSB	-	-	-
Datapoint 40	Output 1 octet	APCSA	APCSA	-	-	-
Datapoint 41	Output 1 octet	FS	FS	-	-	-
Datapoint 42	Output 1 octet	APFA	APFA	-	-	-
Datapoint 43	Output 4 octets	CCAC	CCAC	-	-	-
Datapoint 44	Output 4 octets	CCAH	CCAH	-	-	-
Datapoint 45	Output 4 octets	EC	EC	-	-	-
Datapoint 46	Output 4 octets	FC	FC	-	-	-
Datapoint 47	Output 1 octet	HME	HME	-	-	-
Datapoint 48	Output 6 octets	TRSSHE	TRSSHE	-	-	-

		Selection and Parameter Value				
		Stand Alone	Master	Slave by HCA	Slave by IT	Slave by FC
Datapoint Nr.		**0**	**1**	**2**	**3**	**4**
Datapoint 49	Output 6 octets	TRSSCE	TRSSCE	-	-	-
Datapoint 50	Output 2 octets	AQSE	AQSE	-	-	-
Datapoint 51	Output 2 octets	HRSDE	HRSDE	-	-	-
Datapoint 52	Output 2 octets	TRA	TRA	-	-	-
Datapoint 53	Output 2 octets	TDA	TDA	-	-	-
Datapoint 54	Output 2 octets	TFW	TFW	-	-	-
Datapoint 55	Output 1 bit	PS	PS	-	-	-
Datapoint 56	Output 1 bit	WSw	WSw	-	-	-
Datapoint 57	Output 1 bit	WSt	WSt	-	-	-
Datapoint 58	Output 1 bit	IOO	IOO	-	-	-
Datapoint 59	Output 1 bit	OO	OO	-	-	-
Datapoint 60	Output 1 bit	IA	IA	-	-	-
Datapoint 61	Output 6 octets	AI	AI	-	-	-
Datapoint 62	Output 14 octets	AT	AT	-	-	-
Datapoint 63	Output 1 octet	-	IEDAC	-	-	-
Datapoint 64	Output 1 octet	-	IEDAH	-	-	-
Datapoint 65	Output 1 octet	-	IEDA	-	-	-
Datapoint 66	Output 1 octet	-	APSHSA	-	-	-
Datapoint 67	Output 1 octet	-	APSHSB	-	-	-
Datapoint 68	Output 1 octet	-	APSCSA	-	-	-
Datapoint 69	Output 1 octet	-	FSS	-	-	-
Datapoint 70	Output 1 octet	-	APSFA	-	-	-
Datapoint 71	Output 1 bit	-	IEH	-	-	-
Datapoint 72	Output 1 bit	-	IEC	-	-	-

5 CH_SLAVE_FANCOIL_CONTROLLER (Channel Code 0509h)

- **Name:**   CH_SLAVE_FANCOIL_CONTROLLER

- **ID:**   509h

- **Classification:**   heating actuator

- **Functional Block:**

    - 324 - Flow Water Temperature Sensor (FWTS) (See [02].)
    - 342 - Water Change Over Status (WCOS) (See [02].)
    - 343 - Window switch (WOS) (See [02].)
    - 323 - Return Air Temperature Sensor (RNATS) (See [02].)
    - 328 - Discharge Air Temperature Sensor (DATS) (See [02].)
    - 258 - Fan Coil Control (Basic Part and Additions for Air Quality) (FCC) (See [07].)
    - 240 - Air Handling Unit Controller (AHUC) (See [08].)
    - 1002 - Alarm Source (ALSrc) (See [01].)
    - 369 - Electrical Heating Element Actuator (EHEA) (See [04].)
    - 352 - HVAC Valve Actuator (HVA) (See [04].)
    - 372 - Fan Speed Actuator (FSA) (See [04].)
    - 362 - Air Damper Actuator (ADA) (See [04].)
    - 199 – Cold Water Producer Manager (CPM) (See [09].)
    - 136 – Heat Producer Manager (HPM) (See [06].)

- **Graphical representation**

Legend:
Info for a controller or a BMS
Remote control which come from some KNX equipments or BMS
Slave or actuators (M/S management)

	Inputs	**CH_SLAVE_FAN_-COIL_CTRL**	*Outputs*	
	258.HVACModeEff		258.EnergyDemAC	
	258.HVACModeOptim		258.EnergyDemAH	
	258.ContrMode		258.EnergyDemAir	
	258.EnableHeat			
	258.EnableCool			
	258.ChangeOverStatusWater			
	258.TempOutside			
	258.TempRoomSetpSetHeatEff			
	258.TempRoomSetpSetCoolEff			
	258.FanSpeedUser			
	258.FanManual			
	258.AQSetpEff			
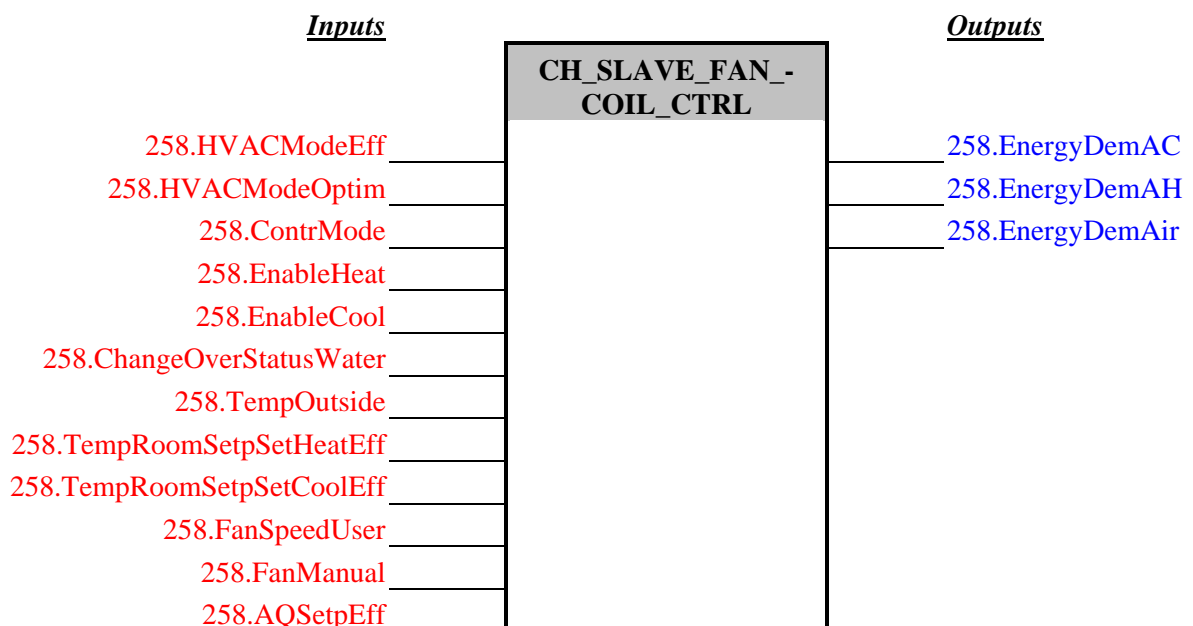
258.TempRoom

258.TempReturnAir

258.AQRoom

240.HumRelSetpDehumEff

240.HumRelRoom

352.ActPosSetpHeatStageA   352.ActPosHeatStageA

352.ActPosSetpCoolStageA   352.ActPosCoolStageA

369.ActPosSetpHeatStageB   369.ActPosHeatStageB

369.ElectricalPowerLimitation

372.FanSpeedSetp   372.FanSpeed

362.ActPosSetpFreshAir   362.ActPosFreshAir

                                                                 323.TempReturnAir

                                                                 328.TempDischargeAir

342.TempFlowWater

                                                                 324.TempFlowWater

343.WindowSwitch   343.WindowSwitch

LA.OnOff   LA.InfoOnOff

                                                                 S.OnOff

1002.EnableAlarmInfo   1002.InAlarm

1002.EnableAlarmText   1002.AlarmInfo

1002.AlarmAck   1002.AlarmText

199.PRelChiller   CoilConsumption AC

136.PRelBurner   CoilConsumptionAH

                                                                 ElectricConsumption

                                                                 FanConsumption

InfoEnergyDemAC

InfoEnergyDemAH

InfoEnergyDemAir

InfoEnableHeat

InfoEnableCool

__Parameters__

Adjustable select for Master / Slave   AJS

- **Datapoint list:**

Index	FB / Datapoint ID	Name	Sub-unit	Main CC	Additional CCs	Flags (i/o,x,v…..)
1	258.HME	HVACModeEff	1	CC_HVAC_Mode_Status (39)	---	I
2	258.HMO	HVACModeOptim	1	CC_HVAC_Mode_Optim (93)	---	I
3	258.CM	ContrMode	1	CC_Control_Mode (53)	---	I
4	258.EH	EnableHeat	1	CC_Heating_Enabled (33)	---	I

Index	FB / Datapoint ID	Name	Sub-unit	Main CC	Additional CCs	Flags (i/o,x,v…..)
5	258.EC	EnableCool	1	CC_Cooling_Enabled (52)	---	I
6	258.COSW	ChangeOverStatusWater	1	CC_HeatCool (41)	---	I
7	258.TO	TempOutside	1	CC_Temperature_Outside (36)	---	I
8	258.TRSSHE	TempRoomSetpSetHeatEff	1	CC_Temp_SetpSet_Heat_-Status (82)	---	I
9	258.TRSSCE	TempRoomSeptSetCoolEff	1	CC_Temp_SetpSet_Cool_-Status (83)	---	I
10	258.FSU	FanSpeedUser	1	CC_Fan_Speed (46)	---	I
11	258.FM	FanManual	1	CC_Enable_Fan (47)	---	I
12	258.AQSE	AQSetpEff	1	CC_Air_Quality_Status (85)	---	I
13	240.HRSDE	HumRelSetpDehumEff	1	CC_HumRelDehum_Status (86)	---	I
14	258.TR	TempRoom	1	CC_Room_Temperature (37)	---	I
15	258.TRA	TempReturnAir	1	CC_Temperature_Return_Air (79)	---	I
16	342.TFW	TempFlowWater	1	CC_Temperature_Flow_Water (81)	---	I
17	258.AQR	AQRoom	1	CC_AQ_Room (55)	---	I
18	240.HRR	HumRelRoom	1	CC_HumRel_Room (57)	---	I
19	LA.OO	OnOff	1	CC_Switch_OnOff (1)	---	I
20	1002.EAI	EnableAlarmInfo	1	CC_Enable_AlarmInfo (59)	---	I
21	1002.EAT	EnableAlarmText	1	CC_Enable_AlarmText (94)	---	I
22	1002.AA	AlarmAck	1	CC_AlarmAck (60)	---	I
23	369.EPL	ElectricalPowerlimitation	1	CC_Elect_power_Limit (64)	---	I
24	199.PRC	PRelChiller	1	CC_PowerRel_Production_-Cool (77)	---	I
25	136.PRB	PRelBurner	1	CC_PowerRel_Production_-Heat (78)	---	I
26		InfoEnergyDemAC	1	CC_EnergyDemAC_Status (98)	---	I
27		InfoEnergyDemAH	1	CC_EnergyDemAH_Status (99)	---	I
28		InfoEnergyDemAir	1	CC_EnergyDemAir_Status (100)	---	I
29	352.APSHSA	ActPosSetpHeatStageA	1	CC_Heating_ValueA (35)	---	I
30	369.APHSB	ActPosSetpHeatStageB	1	CC_Heating_ValueB (87)	---	I
31	352.APSCSA	ActPosSetpCoolStageA	1	CC_Cooling_ValueA (88)	---	I
32	372.FSS	FanSpeedSetp	1	CC_Fan_Speed_Setpoint (90)	---	I

Index	FB / Datapoint ID	Name	Sub-unit	Main CC	Additional CCs	Flags (i/o,x,v…..)
33	362.APSFA	ActPosSetpFreshAir	1	CC_Fresh_Air_Setpoint (89)	---	I
34		InfoEnableHeat	1	CC_Enable_Info_Heat (91)	---	I
35		InfoEnableCool	1	CC_Enable_Info_Cool (92)	---	I
36	343.WSw	WindowSwitch	1	CC_Window_Switch (84)	---	I
37	258.EDAC	EnergyDemAC	1	CC_EnergyDemAC (95)	---	O
38	258.EDAH	EnergyDemAH	1	CC_EnergyDemAH (96)	---	O
39	258.EDA	EnergyDemAir	1	CC_EnergyDemAir (97)	---	O
40	352.APHSA	ActposHeatStageA	1	CC_Heating_ValueA_Status (68)	---	OV
41	369.APHSB	ActposHeatStageB	1	CC_Heating_ValueB_Status (69)	---	OV
42	352.APCSA	ActposCoolStageA	1	CC_Cooling_ValueA_Status (70)	---	OV
43	372.FS	FanSpeed	1	CC_Fan_Speed_Status (72)	---	OVLA
44	362.APFA	ActPosFreshAir	1	CC_Fresh_Air_Status (71)	---	OV
45	352.CCAC	CoilConsumptionAC	1	CC_Coil_Consumption_AC (75)	---	O
46	352.CCAH	CoilConsumptionAH	1	CC_CoilConsumptionAH (76)	---	O
47	369.EC	ElectricConsumption	1	CC_ElectricConsumption (73)	---	O
48	372.FC	FanConsumption	1	CC_Fan_Consumption (74)	---	O
49	323.TRA	TempReturnAir	1	CC_Temperature_Retour_Air (79)	---	OV
50	328.TDA	TempDischargeAir	1	CC_Temperature_Discharge_-Air (80)	---	OV
51	324.TFW	TempFlowWater	1	CC_Temperature_Flow_Water (81)	---	OV
52	LA.IOO	InfoOnOff	1	CC_Switch_OnOff_Status (2)	---	O
53	S.OO	OnOff	1	CC_Switch_OnOff (1)	---	O
54	1002.IA	InAlarm	1	CC_Alarm (67)	---	OV
55	1002.AI	AlarmInfo	1	CC_AlarmInfo (65)	---	OV
56	1002.AT	AlarmText	1	CC_AlarmText (66)	---	OV
57	343.WSw	WindowSwitch	1	CC_Window_Switch (84)	---	O

- **Parameter table**

Index	Identifier	Name	Recommended default Value	Bit-Offset
1	AJS	Adjustable selection for Master / Slave	0 (Stand alone)	

- **Adjustable table:**

		Selection and Parameter Value				
		Stand Alone	Master	Slave by HCA	Slave by IT	Slave by FC
Datapoint Nr.		0	1	2	3	4
Datapoint 1	Input 1 octet	-	-	HME	HME	-
Datapoint 2	Input 1 octet	-	-	HMO	HMO	-
Datapoint 3	Input 1 octet	-	-	CM	CM	-
Datapoint 4	Input 1 bit	-	-	EH	EH	-
Datapoint 5	Input 1 bit	-	-	EC	EC	-
Datapoint 6	Input 1 bit	-	-	COSW	COSW	-
Datapoint 7	Input 2 octets	-	-	TO	TO	-
Datapoint 8	Input 6 octets	-	-	TRSSHE	TRSSHE	-
Datapoint 9	Input 6 octets	-	-	TRSSCE	TRSSCE	-
Datapoint 10	Input 1 octet	-	-	FSU	FSU	-
Datapoint 11	Input 1 bit	-	-	FM	FM	-
Datapoint 12	Input 2 octets	-	-	AQSE	AQSE	-
Datapoint 13	Input 2 octets	-	-	HRSDE	HRSDE	-
Datapoint 14	Input 2 octets	-	-	TR	TR	-
Datapoint 15	Input 2 octets	-	-	TRA	TRA	-
Datapoint 16	Input 2 octets	-	-	-	TFW	-
Datapoint 17	Input 2 octets	-	-	AQR	AQR	-
Datapoint 18	Input 2 octets	-	-	HRR	HRR	-
Datapoint 19	Input 1 bit	-	-	OO	OO	OO
Datapoint 20	Input 1 bit	-	-	EAI	EAI	EAI
Datapoint 21	Input 1 bit	-	-	EAT	EAT	EAT
Datapoint 22	Input 1 bit	-	-	AA	AA	AA
Datapoint 23	Input 1 octet	-	-	EPL	EPL	-
Datapoint 24	Input 1 octet	-	-	PRC	PRC	PRC
Datapoint 25	Input 1 octet	-	-	PRB	PRB	PRB
Datapoint 26	Input 1 octet	-	-	-	-	IEDAC
Datapoint 27	Input 1 octet	-	-	-	-	IEDAH
Datapoint 28	Input 1 octet	-	-	-	-	IEDA
Datapoint 29	Input 1 octet	-	-	-	-	APSHSA
Datapoint 30	Input 1 octet	-	-	-	-	APSHSB
Datapoint 31	Input 1 octet	-	-	-	-	APSCSA
Datapoint 32	Input 1 octet	-	-	-	-	FSS
Datapoint 33	Input 1 octet	-	-	-	-	APSFA
Datapoint 34	Input 1 bit	-	-	IEH	-	-
Datapoint 35	Input 1 bit	-	-	IEC	-	-
Datapoint 36	Input 1 bit	-	-	WSw	WSw	WSw
Datapoint 37	Output 1 octet	-	-	EDAC	EDAC	EDAC
Datapoint 38	Output 1 octet	-	-	EDAH	EDAH	EDAH
Datapoint 39	Output 1 octet	-	-	EDA	EDA	EDA
Datapoint 40	Output 1 octet	-	-	APHSA	APHSA	APHSA
Datapoint 41	Output 1 octet	-	-	APHSB	APHSB	APHSB
Datapoint 42	Output 1 octet	-	-	APCSA	APCSA	APCSA
Datapoint 43	Output 1 octet	-	-	FS	FS	FS
Datapoint 44	Output 1 octet	-	-	APFA	APFA	APFA
Datapoint 45	Output 4 octets	-	-	CCAC	CCAC	CCAC
Datapoint 46	Output 4 octets	-	-	CCAH	CCAH	CCAH
Datapoint 47	Output 4 octets	-	-	EC	EC	EC
Datapoint 48	Output 4 octets	-	-	FC	FC	FC

		Selection and Parameter Value				
		Stand Alone	Master	Slave by HCA	Slave by IT	Slave by FC
Datapoint Nr.		0	1	2	3	4
Datapoint 49	Output 2 octets	-	-	TRA	-	-
Datapoint 50	Output 2 octets	-	-	TDA	TDA	-
Datapoint 51	Output 2 octets	-	-	TFW	-	-
Datapoint 52	Output 1 bit	-	-	IOO	IOO	IOO
Datapoint 53	Output 1 bit	-	-	OO	-	-
Datapoint 54	Output 1 bit	-	-	IA	IA	IA
Datapoint 55	Output 6 octets	-	-	AI	AI	AI
Datapoint 56	Output 14 octets	-	-	AT	AT	AT
Datapoint 57	Output 1 bit	-	-	WSw	WSw	WSw