State 11/2021

MDT Solution proposal

MDT Heating Actuators and the use of visualisations.

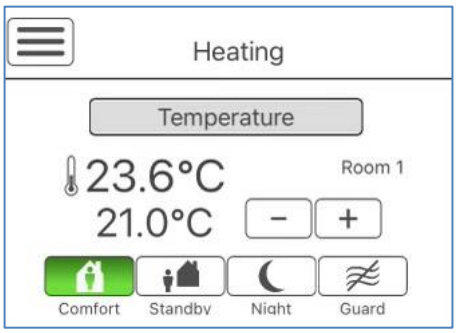
Info:

With their extensive database, the MDT Heating Actuators offer a very high level of compatibility with many visualisations on the market. In this solution proposal, we show the linking of the MDT VisuControl Easy object server. Third-party visualisations should also be easy to put into operation using this document.

Used devices:

MDT Heating Actuator
AKH-0x00.03

MDT VisuControl Easy Object Server
VC-EASY.02



Content

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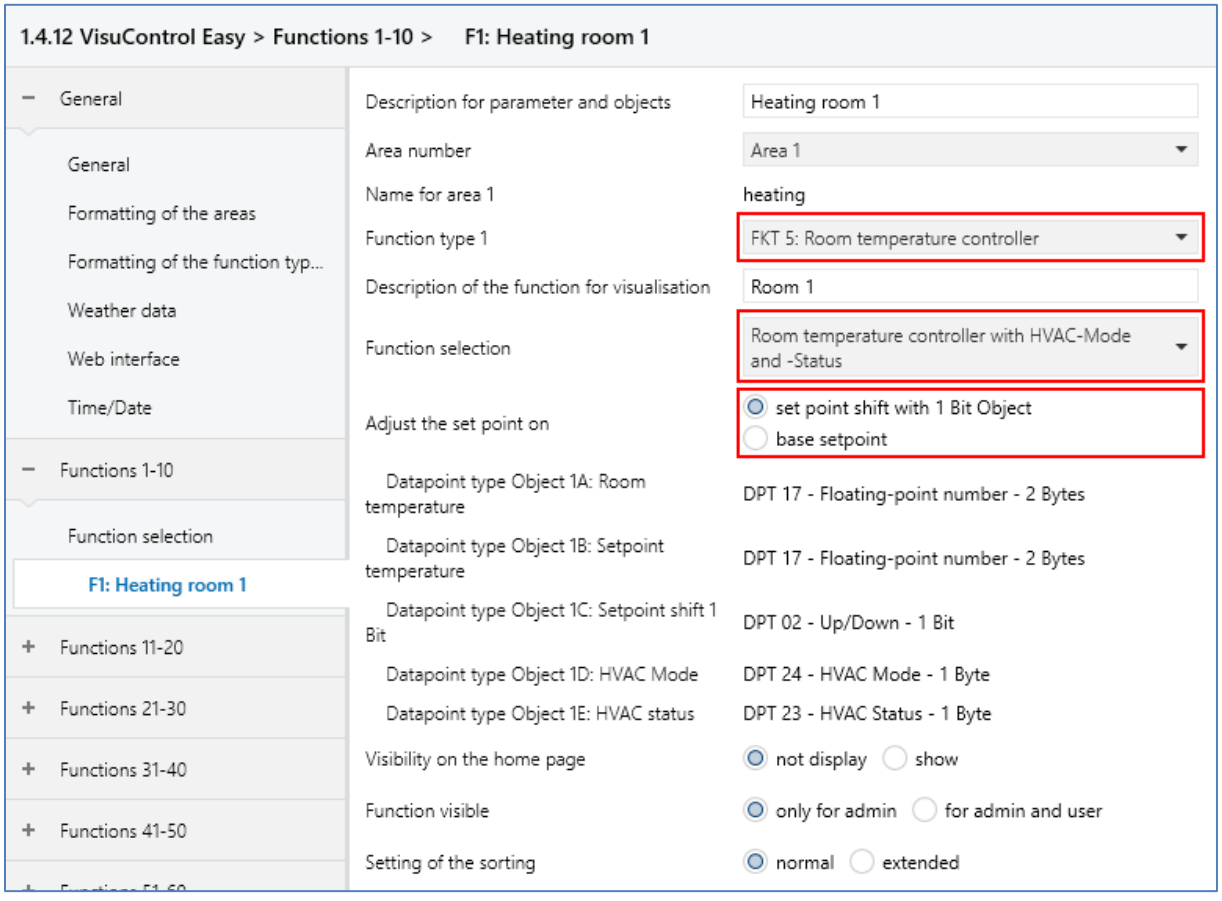
VisuControl Easy Object Server:

We assume that the electrothermic valve drives have been properly connected and the heating actuator has already been commissioned with its basic functions.

Settings VisuControl Easy Object Server:

The MDT VisuControl Easy Object Server supports the setpoint shift via 1 bit (step up/down) and the change of the setpoint by means of 2 bytes (absolute value). Select the function type "FKT 5 Room temperature controller" and the desired subfunction, e.g. "Room temperature controller with HVAC-Mode and -Status". Then choose how to change the set point. (In our example, setpoint shift via 1 bit).



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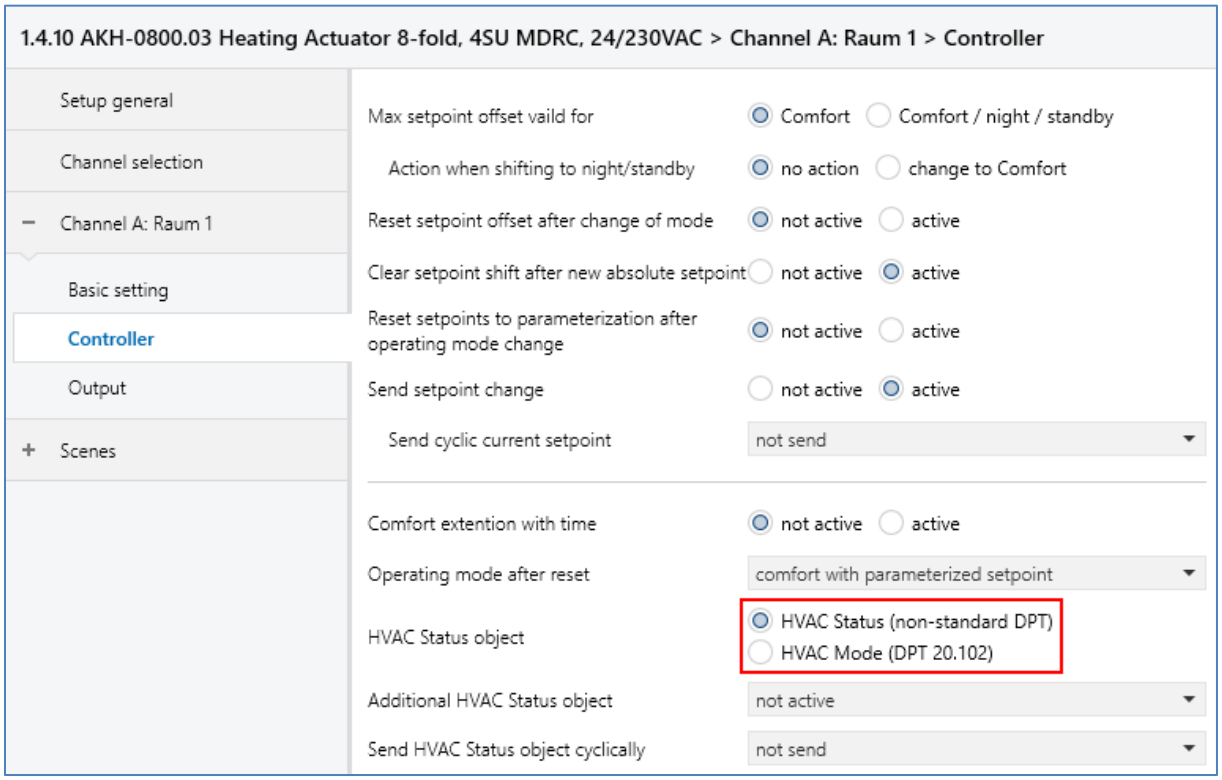
Settings Heating Actuator:

The MDT VisuControl Easy Object Server requires the feedback of the operating mode as "HVAC status".

For this, we change the status object in the heating channel via the following parameter:
Channel → Controller → HVAC Status object → „HVAC Status (non-standard DPT)“



Group addresses and linking:

Heating Actuator:

1.4.10 AKH-0800.03 Heating Actuator 8-fold, 4SU MDRC, 24/230VAC														
1	Channel A: Room 1	Receive temperature value	Channel A: Room 1, Receive temperature value	1/1/1	2 bytes	C	-	W	T	U	temperature (°C)
2	Channel A: Room 1	Preset setpoint			2 bytes	C	-	W	-	-	temperature (°C)
3	Channel A: Room 1	(Basic) Preset comfort setpoint			2 bytes	C	-	W	-	-	temperature (°C)
8	Channel A: Room 1	Send current setpoint	Channel A: Room 1, Send current setpoint	1/1/8	2 bytes	C	R	-	T	-	temperature (°C)
9	Channel A: Room 1	Manual setpoint shift (2byte)			2 bytes	C	-	W	-	-	temperature difference (K)
10	Channel A: Room 1	Manual setpoint shift (1=+ / 0=-)	Channel A: Room 1, Manual setpoint shift (1=+ / 0=-)	1/1/10	1 bit	C	-	W	-	-	step
12	Channel A: Room 1	Control value Heating: Send status			1 byte	C	R	-	T	-	percentage (0..100%)
15	Channel A: Room 1	Send valve state			1 bit	C	R	-	T	-	state
17	Channel A: Room 1	Mode selection	Channel A: Room 1, Mode selection	1/1/17	1 byte	C	-	W	-	-	HVAC mode
19	Channel A: Room 1	Switch Comfort operating mode			1 bit	C	-	W	-	-	switch
20	Channel A: Room 1	Switch Night operating mode			1 bit	C	-	W	-	-	switch
21	Channel A: Room 1	Switch Frost protection operating mode			1 bit	C	-	W	-	-	switch
22	Channel A: Room 1	DPT_HVAC Status: Send controller status	Channel A: Room 1, DPT_HVAC Status: Send controller status	1/1/22	1 byte	C	R	-	T	-	

VisuControl Easy Object Server:

1.4.12 VisuControl Easy											
116	Object 1A: Heating r...	Status temperature	Channel A: Room 1, Receive temperature value	1/1/1	2 bytes	C	-	W	T	U	temperature (°C)
117	Object 1B: Heating ro...	Set point temperature	Channel A: Room 1, Send current setpoint	1/1/8	2 bytes	C	-	W	T	U	temperature (°C)
118	Object 1C: Heating r...	Set point shift 1 Bit	Channel A: Room 1, Manual setpoint shift (1=+ / 0=-)	1/1/10	1 bit	C	-	-	T	U	up/down
119	Object 1D: Heating r...	Operating mode selector (HVAC Mode)	Channel A: Room 1, Mode selection	1/1/17	1 byte	C	-	W	T	U	HVAC mode
120	Object 1E: Heating ro...	HVAC Status	Channel A: Room 1, DPT_HVAC Status: Send controller status	1/1/22	1 byte	C	-	W	T	U	

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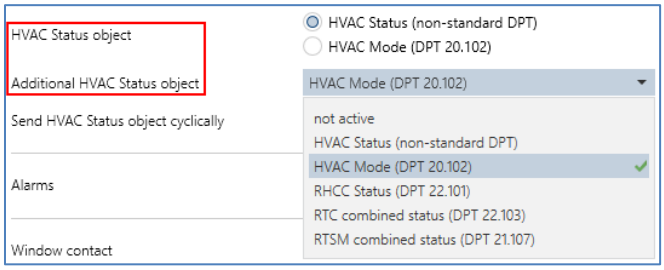
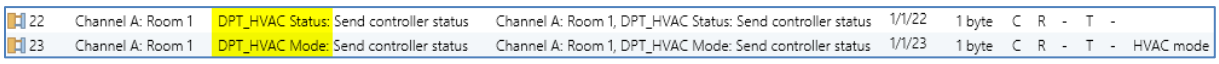
Other visualisations:

Visualisations that change the setpoint by means of 2 bytes can also be linked without any problems. It is always important to select the correct status object type for the feedback of the operating mode. To illustrate the differences, we compare both status objects and their feedback in heating mode:

	Mode	Feedback	
	HVAC Mode	HVAC Mode	HVAC Status
Comfort	$01	$01	$21
Standby	$02	$02	$22
Night	$03	$03	$24
Frost protection	$04	$04	$28

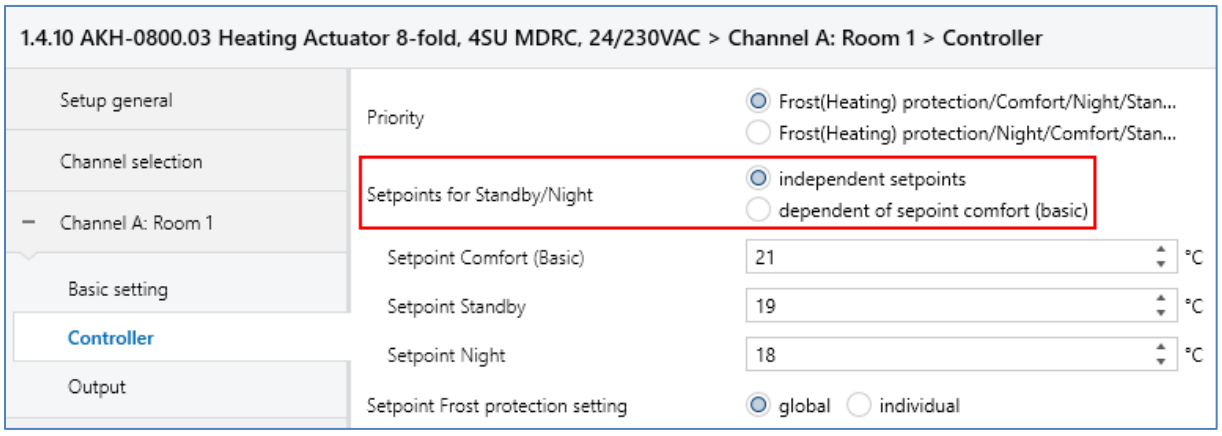
The MDT Heating Actuator AKH-0x00.03 has the possibility to output the HVAC mode, the HVAC status and other statuses in parallel via a second object.





Example:

For the visualisation shown below with setpoint change via 2-byte (absolute value), only a few parameters need to be set in the AKH:
First set the heating actuator to "independent setpoints".



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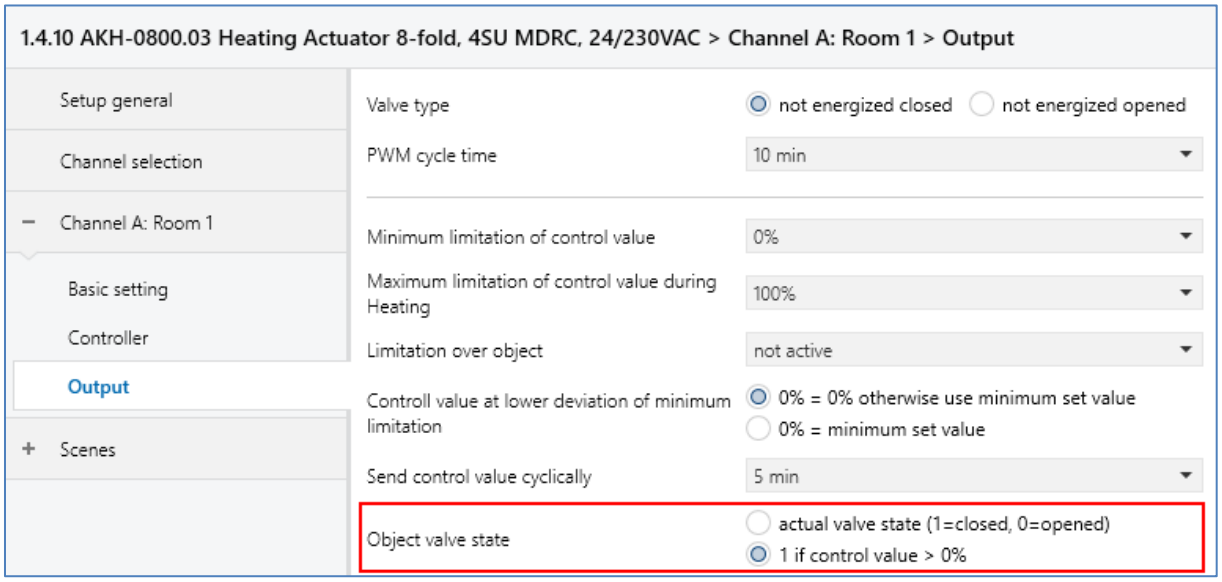
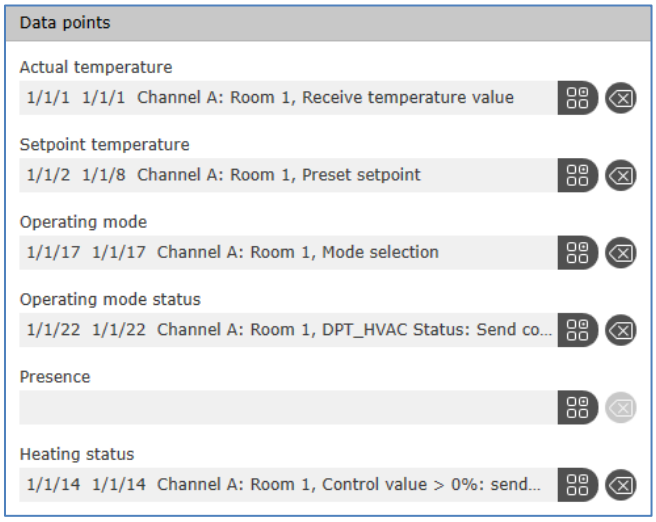
To query the heating status (control value > 0%), we change the following parameter.



This results in the following objects and group addresses:

1	Channel A: Room 1	Receive temperature value	Channel A: Room 1, Receive temperature value	1/1/1	2 bytes	C	-	W	T	U	temperature (°C)
2	Channel A: Room 1	Preset setpoint	Channel A: Room 1, Preset setpoint	1/1/2	2 bytes	C	-	W	-	-	temperature (°C)
8	Channel A: Room 1	Send current setpoint	Channel A: Room 1, Send current setpoint	1/1/8	2 bytes	C	R	-	T	-	temperature (°C)
14	Channel A: Room 1	Control value > 0%: send status	Channel A: Room 1, Control value > 0%: send status	1/1/14	1 bit	C	R	-	T	-	state
17	Channel A: Room 1	Mode selection	Channel A: Room 1, Mode selection	1/1/17	1 byte	C	-	W	-	-	HVAC mode
22	Channel A: Room 1	DPT_HVAC Status: Send controller status	Channel A: Room 1, DPT_HVAC Status: Send controller status	1/1/22	1 byte	C	R	-	T	-	

In the visualisation:



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