INDOOR CLIMATE

UPONOR CONTROL SYSTEM
KNX INTERFACE MANUAL

KNX Interface Manual

Connecting Uponor Controller C-56 with Media Coupler TR131A/B

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Contents

1	**Copyright and Disclaimer**	**3**
2	**Preface**	**4**
2.1	Safety instructions	4
2.2	Disposal	4
3	**Description**	**4**
3.1	Overview	4
3.2	Target group	4
3.3	Scope	4
4	**System setup**	**5**
4.1	Uponor Controller C-56 Radio system setup	5
4.2	Required devices and softwares	5
4.3	ETS topology	5
4.4	ETS handling of TR131 and Uponor Controller C-56 Radio	6
4.4.1	Addressing and synchronizing Uponor Controller C-56 Radio	6
4.4.2	Uponor Controller C-56 Radio parameters	6
4.4.3	Priority mode parameter settings	6
4.4.4	Access mode parameter settings	6
5	**Uponor Controller C-56 Radio data point lists**	**7**
5.1	Data point list per zone	7
5.2	Data point list per controller C-56	8
5.3	Data point list per system	8

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2 Preface

The Uponor KNX Interface Manual describes how to set up the Uponor Controller C-56 and the Media Coupler TR131 to communicate on the KNX interface.

2.1 Safety instructions

Warnings used in this manual

The following symbols are used in the manual to indicate special precautions when installing and operating any Uponor equipment:

WARNING!

Risk of injury. Ignoring warnings can cause injury or damage components.

CAUTION

Ignoring cautions can cause malfunctions.

Safety measures

Conform to the following measures when installing and operating any Uponor equipment:

- Read and follow the instructions in the installation and operation manual.
- Installation must be performed by a competent person in accordance with local regulations.
- It is prohibited to make changes or modifications not specified in this manual.
- All power supply must be switched off before starting any wiring work.
- Do not use water to clean Uponor components.
- Do not expose the Uponor components to flammable vapours or gases.
- We cannot accept any responsibility for damage or breakdown that can result from ignoring these instructions!

Power

WARNING!

The Uponor system uses 50 Hz, 230 V AC power. In case of emergency, immediately disconnect the power.

Technical constraints

CAUTION

To avoid interference, keep installation/data cables away from power cables of more than 50 V.

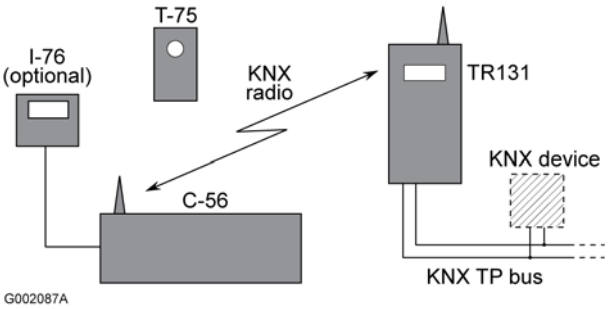
2.2 Disposal

The Uponor Control System consists of various recyclable components. Uponor would be grateful if the components (batteries, plastics, and electric or electronic parts) are sorted and disposed of at a suitable recycling centre.

3 Description

3.1 Overview

The Uponor Controller C-56 Radio can be connected to a standard KNX bus via a Media Coupler TR131. This device will act as a bridge between the Uponor Controller C-56 Radio and the KNX wired bus. Programming of the Media Coupler TR131 and the Uponor Controller C-56 Radio in ETS requires a plug-in program.



The KNX interface offers several possibilities to operate and monitor the Uponor Controller C-56 Radio in a KNX system such as:

- Access to setpoints for every zone
- Readout of room and floor temperatures
- Alarm monitoring
- Usage of standard KNX devices for room temperature and setpoint handling

3.2 Target group

The target group for this manual is an installation engineer that has a basic knowledge and training on the ETS tool and KNX systems. This is needed to do a full KNX installation of a Uponor Controller C-56 Radio and Media Coupler TR131.

3.3 Scope

This manual describes the Controller C-56 Radio parameters that are presented via the KNX interface. It also covers some Uponor Controller C-56 Radio specific points that need to be considered when using the standard KNX configuration tool, ETS.

The installation of the Media Coupler TR131 and the Uponor Controller C-56 Radio are covered by separate installation manuals that are delivered together with these products.

4 System setup

4.1 Uponor Controller C-56 Radio system setup

There are two main options:

- The Uponor Controllers C-56 Radio are grouped in up to three devices per system using the same Uponor Interface I-76. This means that the controllers are numbered and interconnected through the Uponor system bus.

  In ETS, each group will have one master Uponor Controller C-56 Radio that also stores the system data points for that group. The master will always be controller #1. This setup is recommended if the Uponor Interface I-76 timer functions should be used together with KNX since one Uponor Interface I-76 then can control up to three Uponor Controllers C-56 Radio.

  This option is the most common in a single family house.
- The Uponor Controllers C-56 Radio are not grouped or interconnected with the Uponor system bus. In this case all controllers will be masters and will have their own system data points in ETS. This is the preferred setup when not using the Uponor Interface I-76 in the system.

  This option is the typical set-up for nonresidential applications.

  Note: It is possible to connect the Uponor system bus without numbering the controllers with an Uponor Interface I-76, but it is not recommended. The reason is that it can create inconsistency between the controller parameters and the KNX data points.

4.2 Required devices and softwares

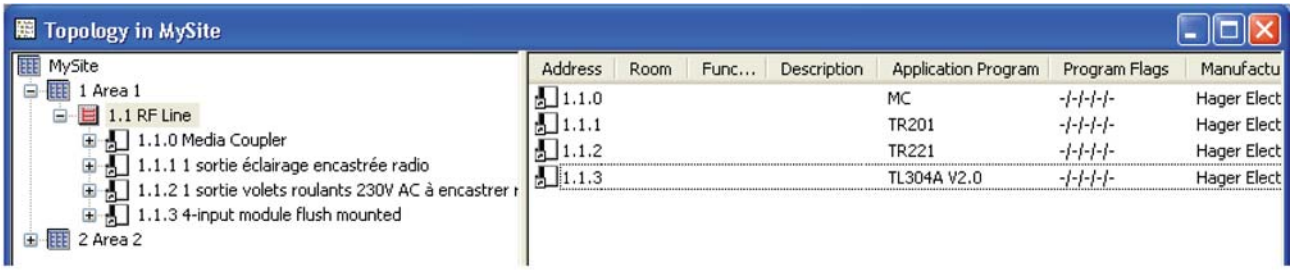
The following list states what is needed to utilize a full KNX connection for a Uponor Controller C-56 Radio.

- ETS installation software
- Uponor Controller C-56 Radio and optional Uponor Interface I-76, both with software version 5.0.0 or later
- Uponor documentation of parameters for Uponor Controller C-56 Radio found in this manual
- Media Coupler TR131
- ETS plug-in for Media Coupler and Uponor Controller C-56 Radio
- ETS data file for Uponor Controller C-56 Radio

Note: The ETS tool is provided by the KNX organisation, the rest by Uponor.

4.3 ETS topology

The ETS topology needs to be defined in a certain way when using the Media Coupler as a bridge for RF products. All RF products must be placed in a separate line. In this line, the Media Coupler must have the address n.n.0.



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4.4 ETS handling of TR131 and Uponor Controller C-56 Radio

4.4.1 Addressing and synchronizing Uponor Controller C-56 Radio

- The Media Coupler TR131 is given its physical address as with any normal KNX device on the wired bus
- All other RF devices are given their physical addresses through the Media Coupler plug-in
- For all RF devices except the Media Coupler: Always use the "RF-download" menu. The default "Download" menu will not work.
- The plug-in will open when right clicking on the Media Coupler device in ETS and choosing "Edit Parameters"
- To address an RF device:
  - Open the plug-in.
  - Click the menu item "Physical Addressing" located in the lower left part of the window.
  - Select device and write the physical address in the right part of the window.
  - Start the download of the address by clicking the "Addressing" button in upper right corner of the window.

  Note that the addressing button on the Uponor Controller C-56 Radio is the button marked Test.

  See illustration below to the left.
- When the Uponor Controller C-56 Radio has got its physical address: Read out all data from the controller by using the "Synchronise" menu choice under the Uponor Controller C-56 Radio device.

  The synchronisation makes all data points in Uponor Controller C-56 Radio visible in the ETS.
- The TR131 creates a group address filter that only allows needed traffic to pass. It is possible to manually open the filter for a group address by selecting the option "Pass through (don't filter)" in the properties menu.

4.4.2 Uponor Controller C-56 Radio parameters

To set the parameters of the RF device, use the same procedure as in KNX twisted pair. For the Uponor Controller C-56 Radio, only 2 parameters can be set with ETS: Priority mode and Access Mode settings. These parameters are only accessible on Controller #1. All parameters for the Uponor Controller C-56 Radio are accessible via data points.

See illustration below to the right.

4.4.3 Priority mode parameter settings

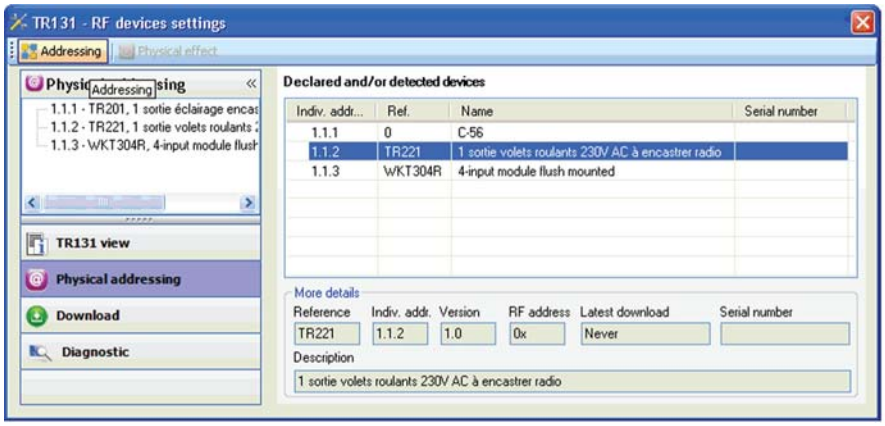
- Last changes

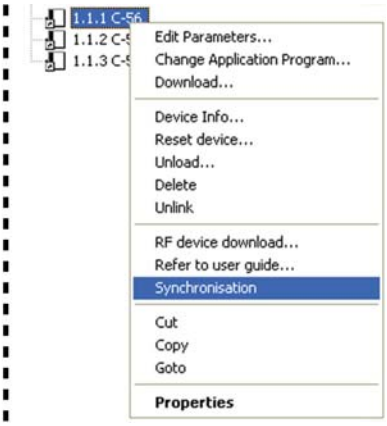
  The last value is the current value. If the Controller receives a new different value, then this value has to be considered. For example, if the remote access sends a new setpoint, this setpoint is active until the setpoint is changed on the thermostat.
- Remote priority

  The remote access has the priority. Only the data coming from the remote access will be considered. For example, the setpoint defined by the remote access will be used regardless of the temperature set locally at the thermostat.

4.4.4 Access mode parameter settings

- **Read only** Only read access
- **Limited write** Full read and some write access
- **Full access** Full read and write access





5 Uponor Controller C-56 Radio data point lists

5.1 Data point list per zone

Parameter name	Explanation	KNX data type	Display condition	Read only	Limited write access	Full access
Room Temperature Info	Measured room temperature. Can be supplied by Uponor Thermostats or other KNX devices.	DPT_Value_Temp		R	R	R/W
Room Setpoint Local Info	Local room setpoint. Can be set in Uponor thermostats or other KNX devices.	DPT_Value_Temp		R	R	R/W
Remote Setpoint	Remote room setpoint. Can be used to override the local setpoint.	DPT_Value_Temp		R	R	R/W
Min Room Setpoint	Setpoint limitation	DPT_Value_Temp		R	R	R/W
Max Room Setpoint	Setpoint limitation	DPT_Value_Temp		R	R	R/W
Floor Temperature	Measured floor temperature. Can be supplied by Uponor Thermostat T-54 or other KNX devices.	DPT_Value_Temp	Valid if sensor is linked	R	R	R/W
Min Floor Temperature	Local minimum limitation for floor temperature. Can be set in Uponor Thermostat T-54.	DPT_Value_Temp	Valid if sensor is linked	R	R	R/W
Max Floor Temperature	Local maximum limitation for floor temperature. Can be set in Uponor Thermostat T-54.	DPT_Value_Temp	Valid if sensor is linked	R	R	R/W
Remote Min Temp Floor	Remote minimum limitation for floor temperature. Can be used to override the local limit.	DPT_Value_Temp	Valid if sensor is linked	R	R	R/W
Remote Max Temp Floor	Remote maximum limitation for floor temperature. Can be used to override the local limit.	DPT_Value_Temp	Valid if sensor is linked	R	R	R/W
Battery Status	0 = Not OK, 1 = OK	DPT_BinaryValue		R	R	R
Radio Status	0 = Not OK, 1 = OK	DPT_BinaryValue		R	R	R
Actuator Status	0 = Closed, 1 = Open	DPT_BinaryValue		R	R	R
Actuator Alarm	0 = Not OK, 1 = Alarm	DPT_Alarm		R	R	R
Actuator Cycle	Cycle counter	DPT_Value_4_Ucount		R	R	R
Status Call	Active if heating or cooling needed	DPT_Switch		R	R	R
Min Output Power	Minimum limitation for parameter Output power. Can be set in MMI in Service mode or via KNX.	DPT_Scaling	Valid if auto balancing is active	R	R	R/W
Max Output Power	Maximum limitation for parameter Output power. Can be set in MMI in Service mode or via KNX.	DPT_Scaling	Valid if auto balancing is active	R	R	R/W
Comfort Setting	Background heating. Can be set in MMI in Installer mode or via KNX.	DPT_Scaling		R	R	R/W
Output Power	The used output power level	DPT_Scaling	Valid if auto balancing is active	R	R	R
Outdoor Temperature	Outdoor temperature from external sensor via Uponor Thermostat T-54	DPT_Value_Temp	Valid for all channels if one outdoor sensor is linked	R	R	R/W

Parameter name	Explanation	KNX data type	Display condition	Read only	Limited write access	Full access
HVAC Mode	Current control mode: Comfort, ECO, or Frost protection	DPT_HVACMode		R	R	R
Relative Humidity	From wireless RH sensor	DPT_Value_ Humidity	Valid if RH sensor is linked	R	R	R/W
Tamper Alarm	0 = No alarm, 1 = Alarm	DPT_Alarm	Valid if T-54 is linked	R	R	R
Technical Alarm	Option if Uponor Thermostat T-53 is used	DPT_Alarm	Valid if T-53 is linked	R	R	R

5.2 Data point list per controller C-56

Parameter name	Explanation	KNX Data type	Read only	Limited write access	Full access
Boiler Status	Reflects the status of the boiler control relay. 0 = Open, 1 = Closed	DPT_Switch	R	R	R
Pump Status	Reflects the status of the pump control relay. 0 = Open, 1 = Closed	DPT_Switch	R	R	R
Supply Alarm High	0 = No alarm, 1 = Alarm	DPT_Alarm	R	R	R
Supply Alarm Low	0 = No alarm, 1 = Alarm	DPT_Alarm	R	R	R

5.3 Data point list per system

Parameter name	Explanation	KNX data type	Read only	Limited write access	Full access
Autobalancing Activation	Activates/deactivates auto balancing for the whole system	DPT_Enable	R	R	R/W
Cooling Activation	(Auto/H/C) Controls the running mode of the whole system	DPT_Switch	R	R	R/W
Eco Override	Will force ECO mode, same function as used with R-56	DPT_HVACMode	R	R/W	R/W
Supply Alarm Activation	Activates/deactivates supply diagnostic for the C-56	DPT_Enable	R	R	R/W

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