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FCI

Vers. 1.2.3

Forecast Interface



The **FCI** receives electricity prices for the next day once daily via a web interface. It also outputs the current, lowest, highest, and average daily electricity price.

The required function data must be generated using the configuration tool (https://fci.ta.co.at) and transferred to the FCI (see chapter “Loading function data“ on page 3). Instructions for this are found with the configuration tool. Custom Python scripts can also be used.

Use of the configuration tool is necessary either way. The FCI always works with the generated function data. Custom Python scripts must also be entered into the configuration tool.

This manual is meant for installation and commission. The creation and use of function data for the FCI, as well as the handling of the configuration tool, are explained in the online help page.

Table of contents

Step-by-step guide 2
Installation and wiring 2
Measurements in mm 2
LED status information 3
Device settings 3
Configuration tool 3
Loading function data 3
TAPPS2 programming 4
Reset button 4
User log 5
System log 5
Download logs via CMI 5

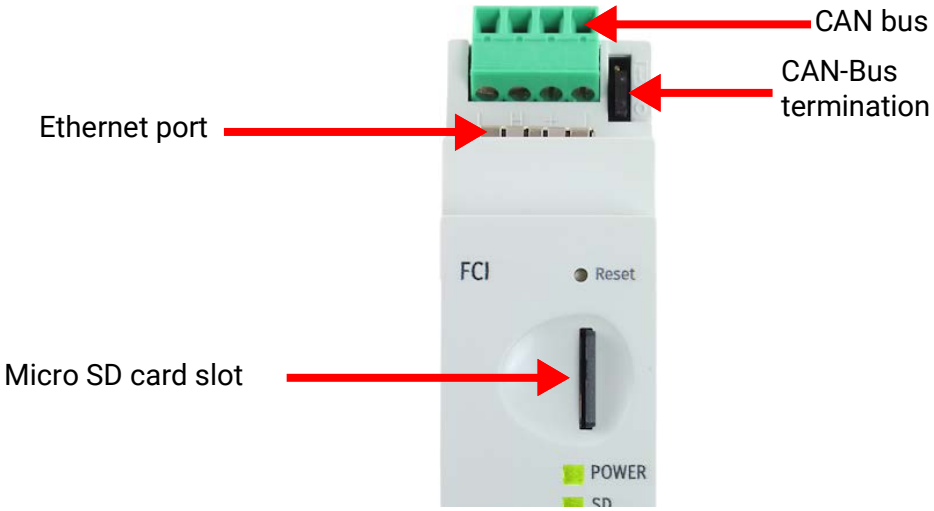
Step-by-step guide

1. Create programming for the controller. Include the values sent via CAN bus by the FCI in the strategy of your programming. If the FCI is CAN node 1, it publishes the time stamp for other CAN nodes.
2. Configure FCI online (https://fci.ta.co.at)

   The configuration tool must also be used for custom Python scripts!
3. Installation and wiring of FCI
4. Load function data onto FCI (see „Loading function data“ on page 3)

Installation and wiring

The FCI is supplied with power by the CAN bus.



Measurements in mm



Width: 24 mm = <1,5 TE

LED status information

LED	Colour	Explanation
POWER	Green	FCI is operational
SD	Green	SD card recognised
	Orange	Available memory below 100 MB
	Red	Error when accessing SD card
	Off	No SD card recognised
CAN	Green	At least 1 other CAN bus device without timeout recognised
	Orange	Script error regarding CAN bus communication (e.g. no values are sent to the FCI)
	Off	No CAN bus connection recognised
LAN	Green	LAN cable plugged in and communication possible
	Orange	General script error; error communicating with electricity price API
	Off	No LAN connection recognised

When starting the device, all LEDs light up red. During this, the button can be pressed to load factory settings or carry out a firmware update (see „Reset button“ on page 4). Once all LEDs light up orange, the FCI has begun booting.

During the firmware update, all LEDs flash orange for the duration of the update.

Device settings

Both CAN and LAN settings are adjusted in the **configuration tool**.

By default, the FCI uses DHCP, has a CAN node number of **55** and device name “FCI”. Time zone can be adjusted at will.

Configuration tool

The configuration tool can be found here: https://fci.ta.co.at. Instructions for inputs are found on the page itself.

Documentation for Python scripts is also found on the page of the configuration tool.

Loading function data

Function data can be loaded via CMI or directly via the SD card of the FCI.

For loading via CMI, see the CMI online help (help.ta.co.at/EN)

For loading via SD card, create a folder named **dat** on the SD card. Save the function data in this folder under the name **fci_autoload.dat** . Plug the SD card into the FCI. The function data is loaded automatically upon plugging in the SD card and is then renamed to **fci_loaded.dat** .

TAPPS2 programming

The FCI transmits several values via CAN outputs. The controller can then read these values via CAN-inputs. Further use of the FCI's values is up the user and must be included in the controller's programming.

For every defined API (up to 5), 4 analogue values are output:

	API 1	**API 2**	**...**	**API 5**
Analogue CAN outputs	1. Current electricity price 2. Daily minimum price 3. Daily maximum price 4. Daily average price	5. Current electricity price 6. Daily minimum price 7. Daily maximum price 8. Daily average price	...	17.Current electricity price 18.Daily minimum price 19.Daily maximum price 20.Daily average price

Additionally, one digital output (On/Off) per defined time frame (up to 10) is transferred. This output designates whether or not the current hour is among the cheapest hours as defined by the configuration.

	Digital CAN outputs
Time frame 1	1. Cheapest hour (On/Off)
Time frame 2	2. Cheapest hour (On/Off)
Time frame 3	3. Cheapest hour (On/Off)
...	...
Time frame 10	10.Cheapest hour (On/Off)

These outputs cannot be changed when using the configuration tool without custom script.

If a custom Python script is used, the FCI's CAN outputs must be user-defined in the script. Further Information can be found in the documentation of the configuration tool.

Reset button

Reset button during startup sequence:

- Hold for 3 seconds: 2 LEDs light up and factory settings are loaded
- Hold for 5 seconds: No LEDs light up and firmware update using SD card is started. For this, an FCI firmware file must be saved to the root directory (not in any folders) of the SD card and renamed to **firmware.bin** .

Reset button during operation:

- Press once: Restart FCI
- Press twice (2 presses in <1 sec.): Automatic firmware update

User log

The user log is saved to the SD card under eventlog\user.log .

Different user-level events are logged and timestamped, among them:

- System update
- Script execution
- Loading function data
- Input status received (e.g. start and stop times of time frames)
- Status information of outputs
- User-level errors (e.g. when start and stop times of time frames are equal)

System log

The system log is saved to the SD card under eventlog\system.log .

Different developer-level events and error messages are logged and timestamped.

Download logs via CMI

Minimum required CMI firmware version: **1.44.1**

In the CMI menu “Data administration”, drag and drop the FCI from the left to the right side. A combined log file, consisting of user log and system log, is downloaded.

Licensing information

This product is based on software which is subject to different open source license models. Owners of this product may view a list of used open source software and their license texts under the following link:

https://www.ta.co.at/en/licensing

If required by the specific license, we offer the source code in a form according to license requirements.

For this, please contact us at:

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Mail: support@ta.co.at
Web: https://www.ta.co.at/support

Please include in your request the product name, date of purchase and serial number. Should you request the source code be sent to you via physical media, we reserve the right to bill you for the costs of the storage medium and shipping.

Subject to technical modifications as well as typographical and printing errors. This manual is only valid for devices with the corresponding firmware version. Our products are subject to constant technical advancement and further development. We therefore reserve the right to make changes without prior notice. ©2026

EU - Declaration of conformity

Document- No. / Date:	TA25003 / 23.04.2025
Company / Manufacturer:	Technische Alternative RT GmbH
Address:	A-3872 Amaliendorf, Langestraße 124

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Product name:	FCI
Product brand:	Technische Alternative RT GmbH
Product description:	Forecast Interface

The object of the declaration described above is in conformity with Directives:

2014/35/EU	Low voltage standard
2014/30/EU	Electromagnetic compatibility
2011/65/EU	RoHS Restriction of the use of certain hazardous substances
2009/125/EU	Eco-design directive

Employed standards:

EN 60730-1: 2011	Automatic electrical controls for household and similar use – Part 1: General requirements
EN 61000-6-3: 2007 +A1: 2011 + AC2012	Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments
EN 61000-6-2: 2005 + AC2005	Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
EN 50581: 2012	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

Position of CE - label: On packaging, manual and type label

CE

Issuer: Technische Alternative RT GmbH
A-3872 Amaliendorf, Langestraße 124

This declaration is submitted by



Dipl.-Ing. Andreas Schneider, General manager,
23.04.2025

This declaration certifies the agreement with the named standards, contains however no warranty of characteristics.
The security advices of included product documents are to be considered.

Warranty conditions

Note: The following warranty conditions do not in any way limit the legal right to warranty, but rather expand your rights as a consumer.

1. The company Technische Alternative RT GmbH provides a one-year warranty from the date of purchase for all the devices and parts which it sells. Defects must be reported immediately upon detection and within the guarantee period. Technical support knows the correct solution for nearly all problems. In this respect, contacting us immediately will help to avoid unnecessary expense or effort in troubleshooting.
2. The warranty includes the free of charge repair (but not the cost of on site troubleshooting, removal, refitting and shipping) of operational and material defects which impair operation. In the event that a repair is not, for reasons of cost, worthwhile according to the assessment of the Technische Alternative company, the goods will be replaced.
3. Not included is damage resulting from the effects of over-voltage or abnormal ambient conditions. Likewise, no warranty liability can be accepted if the device defect is due to: transport damage for which we are not responsible, incorrect installation and assembly, incorrect use, disregard of operating and installation instructions or incorrect maintenance.
4. The warranty claim will expire, if repairs or actions are carried out by persons who are not authorised to do so or have not been so authorised by us or if our devices are operated with spare, supplementary or accessory parts which are not considered to be original parts.
5. The defective parts must be sent to our factory with an enclosed copy of the proof of purchase and a precise description of the defect. Processing is accelerated if an RMA number is applied for via our home page www.ta.co.at. A prior clarification of the defect with our technical support is necessary.
6. Services provided under warranty result neither in an extension of the warranty period nor in a resetting of the warranty period. The warranty period for fitted parts ends with the warranty period of the whole device.
7. Extended or other claims, especially those for compensation for damage other than to the device itself are, insofar as a liability is not legally required, excluded.

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