Gira Logic Module
Order No. 2070 00

1. Product definition

1.1. Product catalogue

Product name: Gira Logic Module
Design: DRA (series installation)
Order No.: 2070 00

1.2. Accessories

The Gira Logic Module requires an additional power supply, e.g.:
Additional power supply
Order No.: 1296 00
KNX power supply, 320 mA
Order No.: 1086 00

1.3. Application

With the Gira Logic Module, single-family houses and properties of similar sizes featuring a KNX system can be equipped with a series of intelligent comfort functions. In this way, it can be used for switching on lights in a time-delayed sequence, saving and calling up certain light scenes directly using a push button sensor, controlling the room temperature and setting other logical functions.

Features:

- A range of functions thanks to the node library with 35 logic nodes (e.g. basic mathematical operations, shutters and blind control, temperature control, partition wall control, staircase lighting, random generator)
- Configurable logic nodes (e.g. freely selectable number of inputs)
- Functional expansions and updates via firmware and software updates
- Import function from KNX projects for data point creation
- Up to 150 data points can be used for each project
- Easy parameterisation of switching times and scenes:
  Up to 10 switching times for each of 20 data points
  Up to 20 scene sets, each with 10 scenes for 20 data points
- Optimised commissioning:
  Fast project changes and updates during operation without the need to restart the device

1.4. Gira Project Assistant

The Gira Logic Module is configured with the Gira Project Assistant. Projects can be conveniently parameterised in just a few steps using the intuitively operated Gira Project Assistant.

Features:

- Intuitive drag&drop operation.
- Automatic location of the Gira Logic Module on the IP network.
- Undo/Redo function with change history.
- Automatic-save function.
- Multi-screen operation: Several project windows can be opened at the same time. A project can be worked on two screens simultaneously to provide a better overview.
- Convenient project management:
  Several projects can be created and managed (a separate Logic Module is required for each project).
- Export/import function for external saving or exchanging of projects.
- Graphic logic editor: A library with many powerful logic nodes is available in the logic editor. This library contains parameters and initialisation values/constants which can be utilised to customise the automation logic. An input, logic node, and output are combined easily at the click of a mouse to create it. Suitable connections are highlighted in colour, as are unassigned inputs/outputs. Error messages are bundled and recorded. Double-clicking an error prompt forwards you directly to the source.
- Convenient logic page management:
  Logic pages can be moved between projects, renamed and assigned keywords.
- Simulation function for testing the created logic: Logical functions can be tested in a simulation here before commissioning. Values can be set and changed as desired, and functions can be tested for the desired behaviour in this way.
- Device templates enable configuration without the need for a device.
- The Gira Project Assistant is available free of charge in the Gira download area.

## 2. Mounting, electrical connection and operation

2.1. Safety notes

Electrical devices may only be installed and mounted by a qualified electrician. In doing so, the applicable accident prevention regulations must be observed.
Failure to observe the installation instructions can result in damage to the device, fire or other dangers.
Please see the operating instructions enclosed with the device for more information.

2.2. Device design

The Logic Module features 3 status LEDs on the top of the housing and 2 status LEDs each at the network connections. In addition, there is a programming button with which the Logic Module can be put into programming mode.
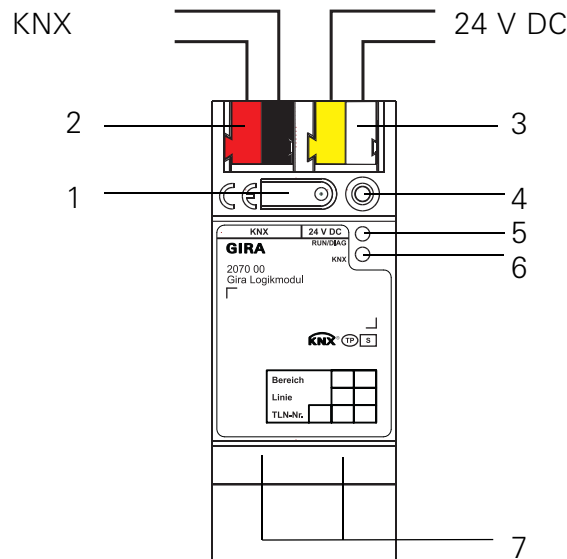
1. Programming button
2. KNX connection
3. External power supply connection
4. Programming LED (red):
   On = programming mode active
5. Operating LED (green):
   On = Logic Module ready for operation
   Flashing slowly = Logic Module not yet configured or incorrectly configured
   Flashing quickly = internal device error
6. KNX LED (yellow)
   On = connection to KNX system
   Off = no connection to KNX system
   Flashing = KNX data transfer
7. Network connection with LED (green/orange)
   Green on = data transmission rate: 100 Mbit/s
   Green off = data transmission rate: 10 Mbit/s
   Orange on = connection to IP network
   Orange flashing = no connection to IP network, no data reception from IP network

2.3. Mounting and electrical connection

⚠ **Danger!**

There is a danger of electric shock if live parts are touched in the installation area.

Electric shock may lead to death.

Isolate before working on the device and cover up live parts in the vicinity!
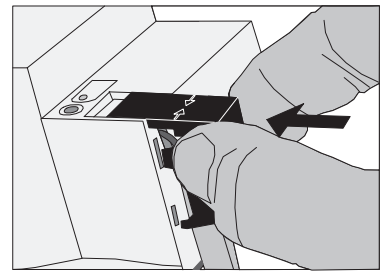

2.4. Mounting the device

Observe the temperature range. Ensure sufficient cooling.

• Snap the device onto a top-hat rail according to DIN EN 60715. See image for installation position.
• Connect the external power supply to the connection terminal (3). Recommendation: Use white-yellow connection terminal.
• Connect KNX line with red-black bus terminal (2).
• Attach cover cap over the KNX/external power supply connection.
• Make network connection by plugging RJ45 plug into RJ socket (7).

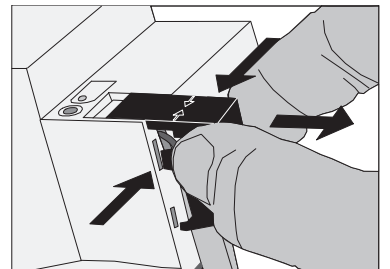## 2.5. Attaching the cover cap

A cover cap must be attached to protect the bus connection from dangerous voltages in the connection area.

• Guide bus line to the rear.
• Attach cover cap over the bus terminal until it engages.

2.6. Removing the cover cap

• Press cover cap on the sides and remove.

2.7. Commissioning

After mounting the device and connecting the bus line, power supply and Ethernet, the device can be started up.

ℹ **Firmware update**

Before the initial commissioning of the Logic Module, use the Gira Project Assistant to carry out a firmware update.

2.8. Programming a physical address

Programming is done in the programming environment of the ETS (4.1.8 or higher). A connection to the device can be established via IP or KNX.

• Ensure that the device and bus voltage are switched on.
• Briefly press programming button (1) (< 4 seconds).
  Programming LED (4) lights up red.
• Program the physical address using the ETS.
  Programming LED (4) goes out after a successful programming process.
• Label device with physical address.

2.9. Additional individual physical addresses

Using the ETS, two additional individual addresses can be configured. These addresses are used for communication for the KNX GA data points.

These individual addresses can be configured in the ETS using the properties of the device and are available for download based on the application program.

When inserting the device into a line, the addresses are generated automatically. They are given the next available address of the line.

2.10. Programming the application program

After programming the physical addresses, the application program must be imported to the device. A connection to the device can be established via IP or KNX.

• Ensure that the device and bus voltage are switched on.
• Parameterise the Logic Module accordingly in the ETS.
• Import the software to the device.
• Wait approximately 10 seconds after the download, during which the device transfers the data
• Commissioning is complete. Further configuration of the Logic Module occurs in the Gira Project Assistant.

2.11. Diagnosis codes

The current device status can be concluded using the operation indication (5):

• LED off: Device is not switched on or not yet completely powered up.
• LED on: Device is ready for operation.
• LED flashes slowly (~1Hz): Device is not configured or was configured with impermissible parameters. The LED stops flashing when an ETS download has occurred and commissioning occurred via the GPA.
• LED flashes quickly (~4Hz): Internal device error. Please contact support.

2.12. LED status when starting up the device

When the device is started up properly, the yellow LED (6) flashes when the operating voltage is applies, thus signalising the start-up process. As soon as the device has completely started up, the green LED (5) lights up continuously if the device is already parameterised, or it flashes according to the diagnosis codes. From this time on, the yellow LED (6) signalises the KNX bus status and KNX telegrams.

A self-test is carried out when the device is started up. If an error occurs here, the yellow LED (6) and the green LED (5) flash alternately directly after the operating voltage is applied. In this case, please contact support.

2.13. Factory reset

The device can be reset to the factory settings via a sequence during starting.

- Make sure that the device is switched off.
- Press and hold the programming button (1) and switch on the device.
- Press and hold the programming button until the programming LED (4), the operation indication LED (5) and the KNX LED (6) flash slowly simultaneously.
- Briefly release the programming button (1), then press and hold it again until the programming LED (4), the operation indication LED (5) and the KNX LED (6) flash quickly simultaneously.
- The factory reset has been carried out.
- Release the programming button.
- The device need not be restarted following a factory reset.

The factory reset can be cancelled at any time by interrupting the sequence.

Following the factory reset, the device behaves as in the state of delivery. The device is unplanned. This can be recognized after starting up the device from the slowly flashing green operation indication LED (5).

2.14. IP address

In the state of delivery, IP address issuance occurs via DHCP. Should the device not receive an address using this method, an auto IP (address range from 169.254.1.0 to 169.254.254.255) is issued after a certain waiting time.

A static IP address can also be issued via the ETS or the Gira Project Assistant. "IP address", "IP subnet mask" and "IP standard gateway" can be set here.

3. Technical data

KNX

KNX medium	TP1
Commissioning mode	S mode (ETS)
KNX supply	21...30 V DC SELV
KNX current consumption	Typ. 10 mA
KNX connection	Bus connection terminal

External supply

Voltage	24...30 V DC
Power consumption	2 W (with 24 V DC)
Connection	Connection terminal

IP

IP communication	Ethernet 10/100 BaseT (10/100 Mbit/s)
IP connection	RJ45 socket
Supported protocols	DHCP, AutoIP, TCP/IP, UDP/IP (core, routing, tunnelling, device management), ARP, ICMP, IGMP

General

Ambient temperature	0 °C to +45 °C
Storage temperature	−25 °C to +70 °C
Installation width	36 mm (2 HP)

4. Object table

Number of communication objects: 40
Number of addresses (max):   32767
Number of assignments (max):   32767
Dynamic table management: No
Maximum table length: 65535

Function: General

Object	Function	Name	Type	DP type		Flag*
1	Ready	Device	1 bit	1.011	Status	C, R, T

Description: Object which returns the state of the device. If the object has a value of "1", the device is ready for operation. A "0" means that the device is not yet ready for operation.

Function: General

Object	Function	Name	Type	DP type		Flag*
2	State	Device	1 byte	5.010	Meter pulses (0 to 255)	C, R, T

Description: Object for sending the current device state.

00 h	Ready	Device is started up and ready for operation.
01 h	Start-up	The device starts up.
02 h	Shut-down	The device is restarted and will not be available for a moment.
03 h	Configuration	The device is configured.

Function: General
Parameter: Show restart = set

Object	Function	Name	Type	DP type		Flag*
3	Reboot	Device	1 bit	1.015	Reset	C, W

Description: Object for receiving the restart request.

Function: Time
Parameter: Time mode = Server

Object	Function	Name	Type	DP type		Flag*
4	Date	Device	3 bytes	11.001	Date	C, R

Description: Object for sending the current date.

Function: Time
Parameter: Time mode = Client

Object	Function	Name	Type	DP type		Flag*
4	Date	Device	3 bytes	11.001	Date	C, W, U, ROI

Description: Object for receiving the current date.

Function: Time

Parameter: Time mode = Server

Object	Function	Name	Type	DP type		Flag*
◼⇄ 5	Time	Device	3 bytes	10.001	Time of day	C, R

Description: Object for sending the current time.

Function: Time

Parameter: Time mode = Client

Object	Function	Name	Type	DP type		Flag*
◼⇄ 5	Time	Device	3 bytes	10.001	Time of day	C, W, U, ROI

Description: Object for receiving the current time.

Function: Time

Parameter: Time mode = Server

Object	Function	Name	Type	DP type		Flag*
◼⇄ 6	DST	Device	1 bit	1.002	Boolean	C, R

Description: Object for sending whether summertime is active. "1" means summertime is set, and "0" means normal time (wintertime) is set.

Function: Time

Object	Function	Name	Type	DP type		Flag*
◼⇄ 7	Uptime	Device	4 bytes	13.100	Time difference (s)	C, R, T

Description: Object for sending the operating time in seconds. Time since the last restart.

Function: KNX states

Parameter: KNX states = set

Object	Function	Name	Type	DP type		Flag*
◼⇄ 50	Programming Mode	KNX	1 bit	1.001	Switching	C, W, U

Description: Object for receiving the programming mode. "1" means programming mode is activated, and "0" means that programming mode is switched off.

Function: KNX states

Parameter: KNX states = set

Object	Function	Name	Type	DP type		Flag*
◼⇄ 51	Programming Mode State	KNX	1 bit	1.001	Switching	C, R, T

Description: Object for sending the status of the programming mode. "1" means programming mode is activated, and "0" means that programming mode is deactivated.

Function: KNX states

Object	Function	Name	Type	DP type		Flag*
◼⇄ 60	Bus State	KNX	1 bit	1.011	Status	C, R, T

Description: Object for sending whether the device has access to the bus. "1" means that the device has access to the bus, and "0" means that the device does not have access to the bus.

Function: Timer

Parameter: Show timer = set

Object	Function	Name	Type	DP type		Flag*
◼⇄ 4400	Trigger	Timer 1	1 bit	1.017	Trigger	C, T

Description: Object for triggering the timer.

Function: Timer

Parameter: Show timer = set

Object	Function	Name	Type	DP type		Flag*
◼⇄ 4409	Trigger	Timer 10	1 bit	1.017	Trigger	C, T

Description: Object for triggering the timer.

Function: Scenes

Parameter: Show scenes = set

Object	Function	Name	Type	DP type		Flag*
◼⇄ 4500	Control	Scene Set 1	1 byte	18.001	Scene control	C, W, T

Description: Object for receiving whether a scene is executed or whether it is to be taught in.
Up to 10 scenes can be executed or taught in.

The values 0–9 are used for execution, and 128–137 are used for teaching in.

Function: Scenes

Parameter: Show scenes = set

Object	Function	Name	Type	DP type		Flag*
◼⇄ 4519	Control	Scene Set 20	1 byte	18.001	Scene control	C, W, T

Description: Object for receiving whether a scene is executed or whether it is to be taught in.
Up to 10 scenes can be executed or taught in.

The values 0–9 are used for execution, and 128–137 are used for teaching in.

*The default values are specified.

5. Parameter

Description	Values	Comments
General		
Show restart	Checkbox (**inactive**)	If this parameter is activated, the device can be restarted using a communication object.
Time mode	**None**	When "Server" is active, the date and time of the device can be queried.
	Server	
	Client	When "Client" is set, the date and time of the device can be set.
Show KNX states	Checkbox (**inactive**)	If this parameter is activated, the bus status and programming button can be queried. The programming mode can also be set using a communication object.
Show timer	Checkbox (**inactive**)	If this parameter is activated, 10 timers are available in the ETS. (see communication objects)
Show scenes	Checkbox (**inactive**)	If this parameter is activated, 20 scene sets are available in the ETS. (see communication objects)

Default values are marked in **bold**

6. Attachment

Gira
Giersiepen GmbH & Co. KG
Electrical installation
systems

Industriegebiet Mermbach
Dahlienstraße
42477 Radevormwald

P.O. Box 12 20
42461 Radevormwald

Germany

Tel.: +49(0)21 95 - 602-0
Fax: +49(0)21 95 - 602-191

www.gira.de
info@gira.de