AT-SL-ADR & AT-SL-ADR/SA

RF 1-10V + relay controller

Overview

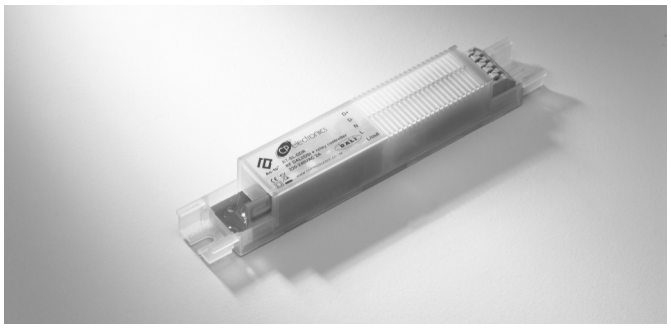


Fig 1: AT-SL-ADR

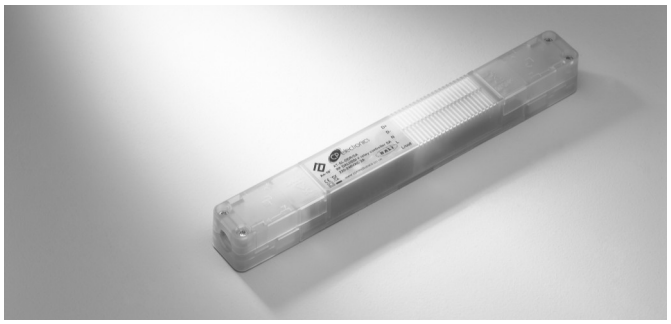


Fig 2: AT-SL-ADR /SA

The AT-SL-ADR and AT-SL-ADR/SA are wireless controllers with two output channels capable of controlling incandescent, fluorescent and compact fluorescent lighting.

Two versions are available. The AT-SL-ADR is designed for fitting inside a luminaire. The AT-SL-ADR/SA is suitable for mounting remotely.

Output Channel 1 comprises a mains voltage relay capable of simple on/off switching, while Output Channel 2 provides dimmable control of 1-10V analogue ballasts.

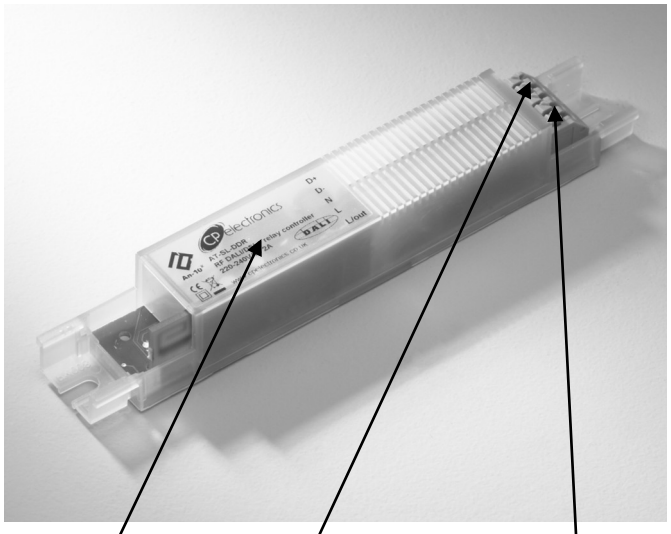
The unit also includes stored scenes for versatile manual control of lighting levels.

These devices are integrated with other devices as part of an **An-10**® lighting control system. The built-in RF transceiver allows wireless communication with all other **An-10**® compatible products, e.g. the AT-BB-IN Input Unit, useful for push-button scene selection and absence detection.

All functionality is fully programmable.

Features

Fig 3: Front features (AT-SL-ADR shown)



Clear casing
which covers.....
IR Receiver
Status LEDs

Power input & switched output Connector
(Channel 1)

Dimmable Control Output Connector
(Channel 2)

IR Receiver
Receives control and programming commands from an IR (infrared) handset (Fig.3).

Status LEDs
These flash **R**ed and/or **G**reen to indicate the following:

Power Input & Switched Output Connector (Channel 1)
Used to connect mains power to the unit and to connect a switched load.

Valid setting received	G
Invalid setting received	R R R R R R
Software reset received	G G G G G G
Factory reset received	R G R G R G

Dimmable Control Output Connector (Channel 2)
Used to connect 1-10V controllable ballasts and transformers for dimmable loads.

Installation

AT-SL-ADR mounting

Mount and wire the unit in the following method.

- Affix the AT-SL-ADR to the inside of a luminaire using M4 screws as shown in the diagram below (Fig. 4).
- Use a flat-bladed screwdriver to depress the spring actuators. Insert cable when the actuator is fully depressed. Release of the sprung actuator clamps the conductor. The sprung terminals are only suitable for solid core cable up to 1.5mm^2.

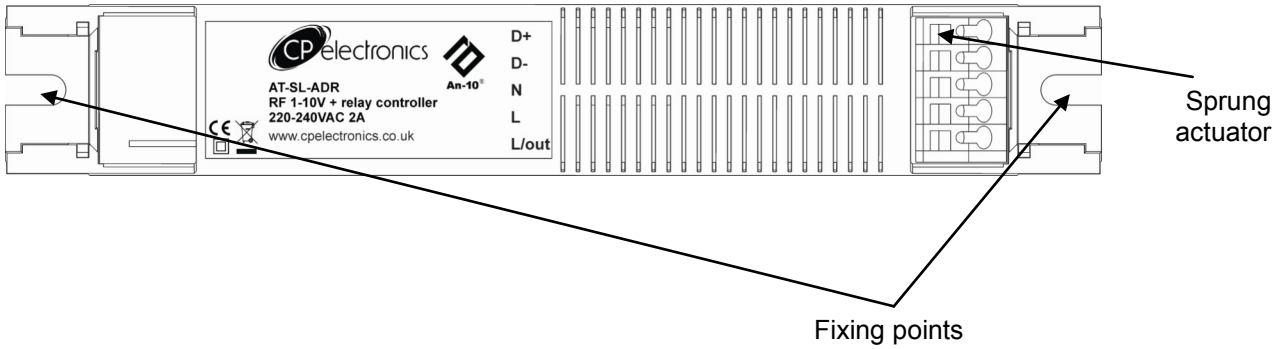


Fig 4: AT-SL-ADR mounting

AT-SL-ADR/SA mounting

Mount and wire the unit in the following method.

- Remove terminal covers by unscrewing the clamp screws and inserting a small flat-bladed screwdriver into the slots shown in the diagram below (Fig. 5).
- Affix the AT-SL-ADR/SA using the fixing slots shown in the diagram below (Fig. 7). The fixing slots are suitable for M4 screws.
- Wire unit using the screw terminals. The screw terminals are suitable for solid core or stranded cable up to 2.5mm^2. Maximum cable OD 10mm.
- Ensure that the main cable sheathing is over the cable clamp area (Fig. 7).
- Clip on the terminal covers.
- Insert the clamp screws and screw up until the cable is firmly clamped.

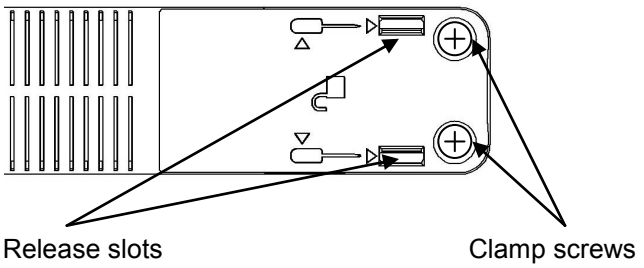


Fig 5: AT-SL-ADR/SA terminal cover

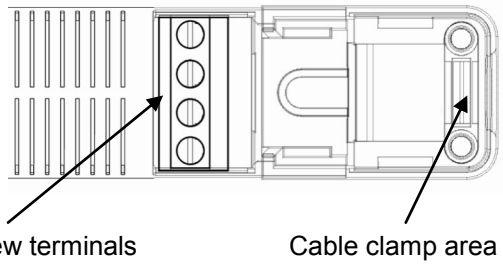


Fig 6: AT-SL-ADR/SA terminal cover

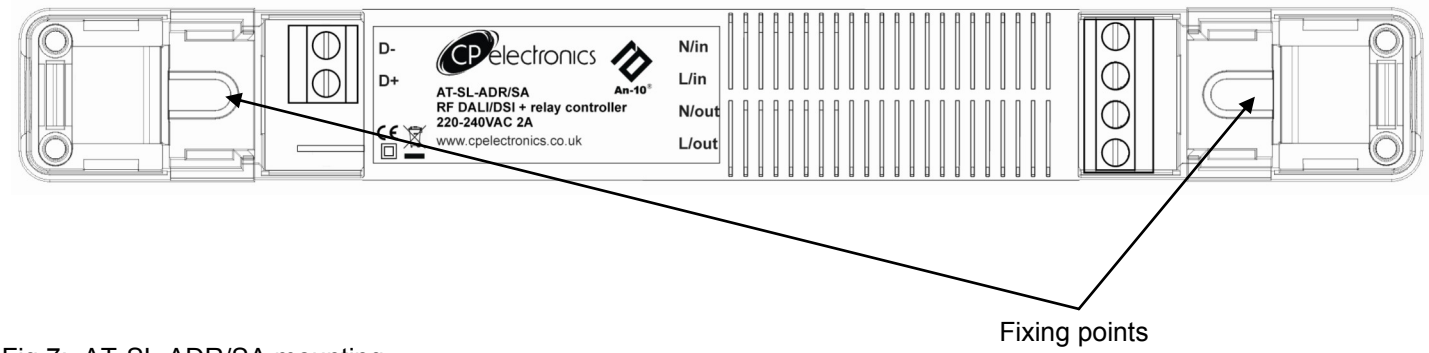


Fig 7: AT-SL-ADR/SA mounting

IMPORTANT NOTICE!
This device should be installed by a qualified electrician in accordance with the latest edition of the IEE Wiring Regulations and any applicable Building Regulations.

Wiring

Channel 1 (switched output) of the AT-SL-ADR can either be used to switch a separate channel of standard, non-dimming luminaires, or to isolate the mains supply to dimming ballasts (saving on the standby current of the ballasts).

Multiple luminaires may be connected in parallel to Channel 1 (via the **N** and **L/out** terminals) as long as the maximum total load is not exceeded.

Channel 2 (dimmable output) of the AT-SL-ADR can be used to control the light output of luminaires that are fitted with dimming ballasts/transformers.

The ballasts/transformers can be connected in parallel to Channel 2 (via the **DIM–** and **DIM+** terminals). Ensure that correct polarity is maintained at each ballast. Refer to the specification on page 8 for ballast quantities.

AT-SL-ADR wiring

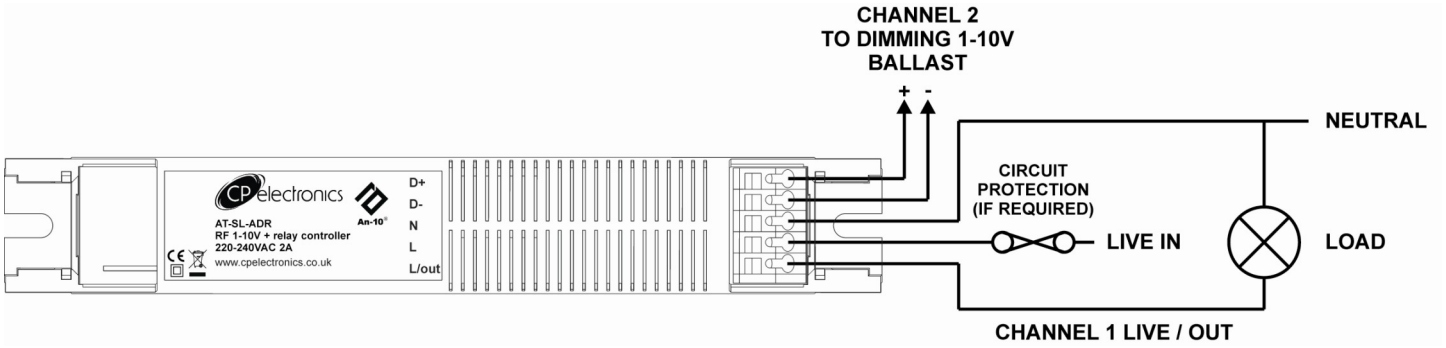


Fig 8: AT-SL-ADR wiring

AT-SL-ADR/SA wiring

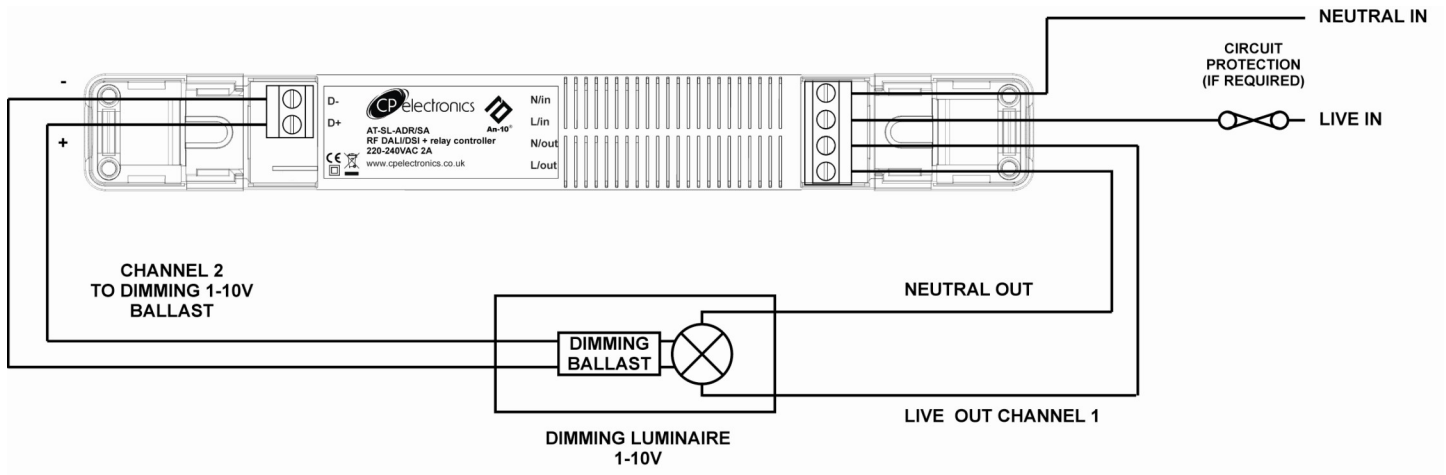


Fig 9: AT-SL-ADR/SA wiring

Fault finding

What if the load does not turn ON?

- Check that the live supply to the circuit is good.
- Check that the load is functioning by bypassing the Controller (e.g. link terminals **L/in** and **L/out** on Channel1).
- Check that the unit is correctly addressed, see ‘Step 1: Set channel addresses and channel load type’ on page 4.

Basic programming

The functionality of the AT-SL-ADR is controlled by a number of parameters which can be changed or programmed by any of the following devices:

- **UHS4** Infrared Handset
- **UN-LCDHS** Infrared Handset (with LCD)

For most basic programming operations the UHS4 handset is recommended and the following procedures are based on using this device.

Point the handset at the Controller and send the required programming commands to the unit as shown in Steps 1, 2 and 3.

Valid commands will be indicated by a green LED flash. See page 1 for details of other LED responses.

Step 1: Set channel addresses and channel load type

The Controller has two output channels:

- Channel 1 - Switched Output
- Channel 2 - Dimmable Output

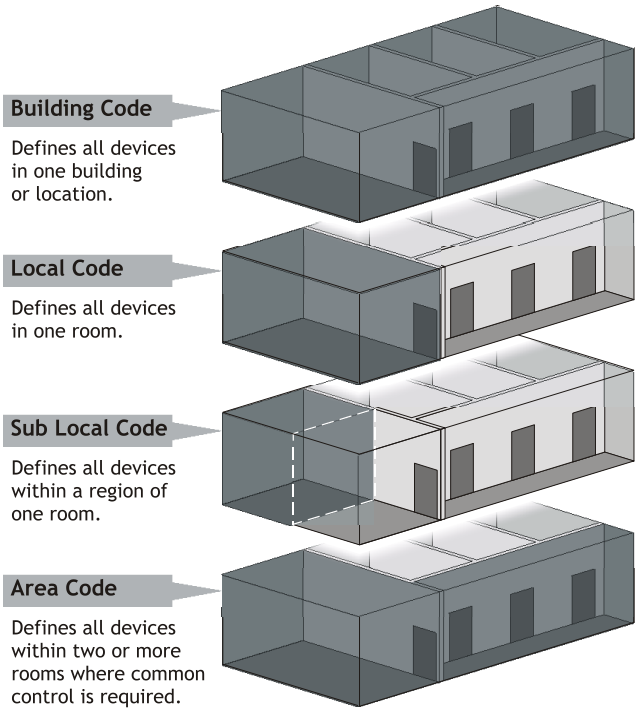
To relate the function of different channels it is necessary to set the addresses correctly. For example, a scene select message sent from a device with a Local Code of 1 will only be actioned by devices that also have a Local Code of 1.

To program the settings for a specific channel on the Controller you must specify the appropriate channel number (i.e.1 to 2) using the programming device.

If no channel number (or channel 0) is specified, all channels will be set to the same address.

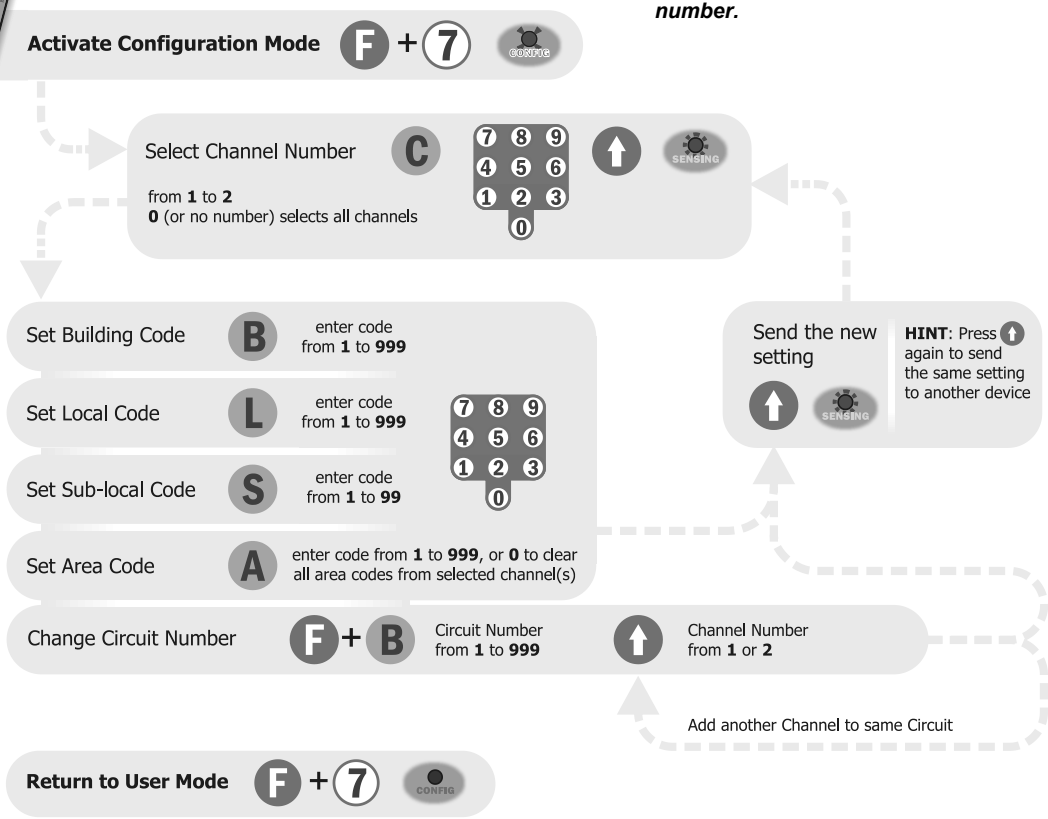
The output channels also have Circuit numbers. This allows different physical channels to be linked and controlled as a single Circuit.

Channel 2 (the dimmable output) can control 1-10V ballasts.



Note: for applications where there is only one channel of lighting being controlled in a room there is no need to select the channel number.

Using the UHS4 handset...



Step 3: Re-program scenes

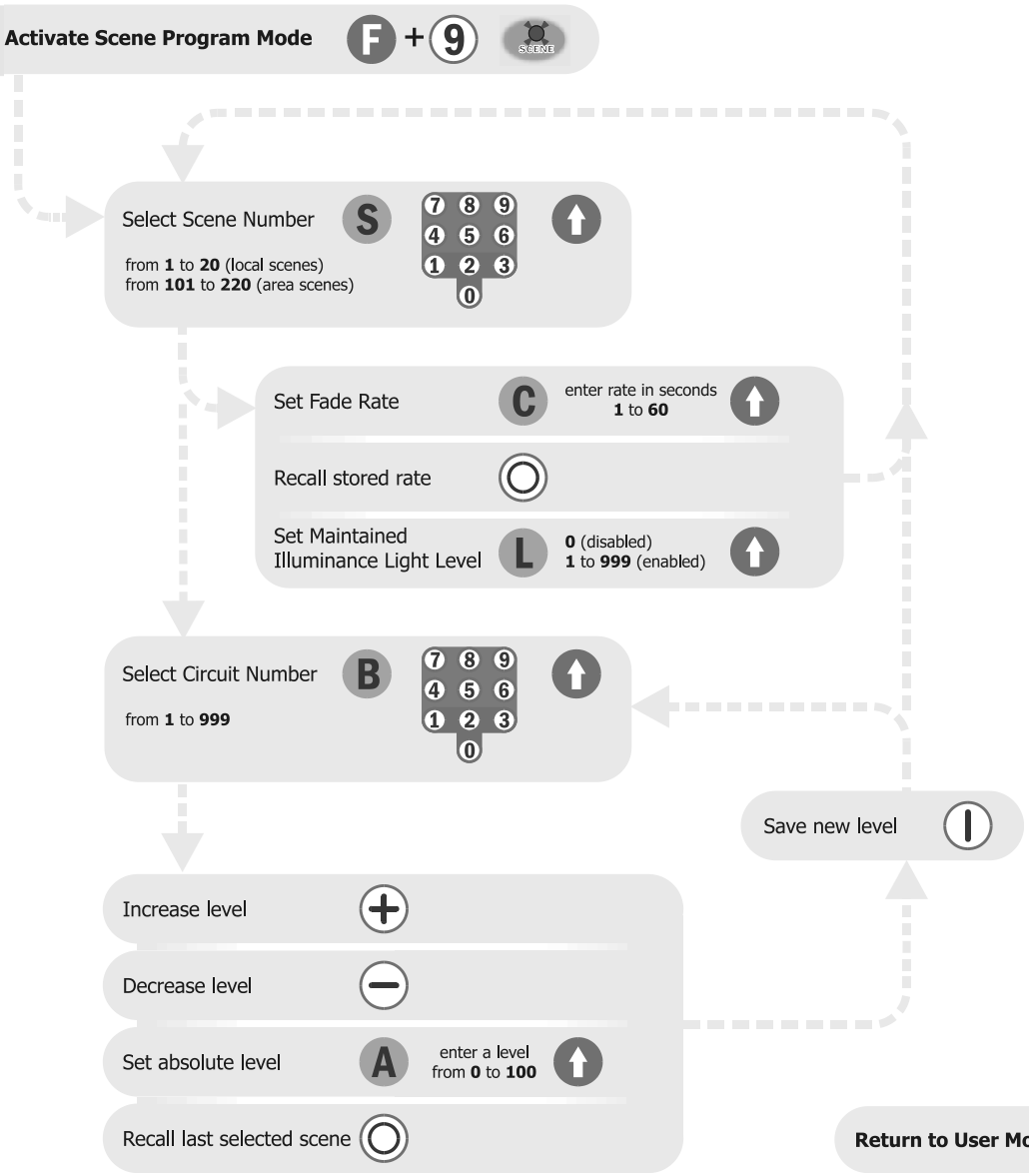
The AT-SL-ADR has capacity to store 20 Local Scenes and 120 Area Scenes. By default all Scenes are pre-programmed with the following channel levels, but these can be changed as required:

	Local Scenes								
	1	2	3	4	5	6	...	19	20
Ch1	on	on	on	on	on	on	...	on	off
Ch2	100%	75%	50%	25%	100%	75%	...	50%	0%
	Area Scenes								
	101	102	103	104	105	106	...	119	220
Ch1	on	on	on	on	on	on	...	on	off
Ch2	100%	75%	50%	25%	100%	75%	...	50%	0%

NOTE: *Local Scene 20 and Area Scene 120 are designated 'off' scenes within a system and should normally be programmed with all channels off or at zero.*

Each Scene has a Fade Rate, which is the time taken for the existing output channel levels to fade to the levels defined in the selected Scene. By default this is set to 3 seconds for all Scenes.

Using the UHS4 handset...



Advanced programming

The tables on pages 6 and 7 give a summary of all programmable parameters for the AT-SL-ADR Controller.

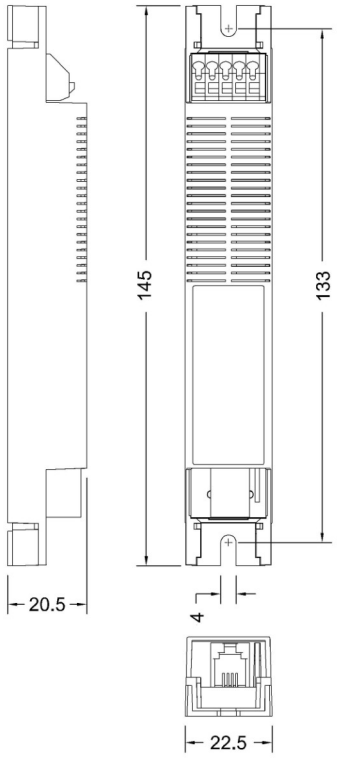
Parameter Name	Default Value	Range / Options	Description	Programming Devices	
				UHS4	UN-LCDHS
For Device					
Product ID	*Automatically assigned by the device*	1 to 999	A number used to uniquely identify each device within a range of devices that are set to the same Local Code.	✘	✓
Building Code	1	1 to 999	A number shared by all devices that belong to the same building or system.	✓	✓
Lock	0	Enable (1) or disable (0)	Lock the An-10 network. Prevents more devices joining the network.	✘	✓
*For **Channel 1** (Switched Output)*					
Local Code	1	1 to 999	A number corresponding to the Local Code of all devices to be controlled by an associated input channel.	✓	✓
Sub Local Code(s)	*Not set*	1 to 99 0 to clear	A number corresponding to the Sub Local Code of all devices to be controlled by an associated input channel. Up to 20 Sub Local Codes can be set for Channel 1 and 2, e.g. 15 on Ch.1 and 5 on Ch.2, etc.	✓	✓
Area Code(s)	*999*	1 to 999 0 to clear	A number corresponding to the Area Code of all devices to be controlled by an associated input channel. Up to 32 Area Codes can be set for Channel 1 and 2, e.g. up to 16 per channel, or 20 on Ch.1 and 12 on Ch.2, etc.	✓	✓
Circuit Number	1	1 to 999	Sets the circuit number for this channel.	✓	✓
Output State	*Set by Scene*	0-100% 0=off	The current output state of the channel, for example as set by a Scene Select command.	✓	✓
Raise from off	1	Enable (1) or disable (0)	Enables raise from off feature.	✘	✓
Lower from off	1	Enable (1) or disable (0)	Enables lower from off feature.	✘	✓
Emergency output	0	Enable (1) or disable (0)	Enabling this sets the output to a ‘switched permanent live’ mode for emergency ballasts.	✘	✓
*For **Channel 2** (Dimmed Output)*					
Local Code	1	1 to 999	A number corresponding to the Local Code of all devices to be controlled by an associated input channel.	✓	✓
Sub Local Code(s)	*Not set*	1 to 99 0 to clear	A number corresponding to the Sub Local Code of all devices to be controlled by an associated input channel. Up to 20 Sub Local Codes can be set for Channel 1 and 2, e.g. 15 on Ch.1 and 5 on Ch.2, etc.	✓	✓
Area Code(s)	*999*	1 to 999 0 to clear	A number corresponding to the Area Code of all devices to be controlled by an associated input channel. Up to 32 Area Codes can be set for Channel 1 and 2, e.g. up to 16 per channel, or 20 on Ch.1 and 12 on Ch.2, etc.	✓	✓
Circuit Number	2	1 to 999	Sets the circuit number for this channel.	✓	✓
Output Level	*Set by Scene*	0 to 100 %	The current output level of the channel, for example as set by a Scene Select command.	✓	✓
Max Value	100%	0 to 100%	Maximum dimming output level.	✘	✓
Min Value	1%	0 to 100%	Minimum dimming output level.	✘	✓
Burn-in	0	0 (disabled) or 1 to 255 hours	Determines how long the output will be at 100% so that lamps ‘burn -in’. The ’burn-in’ time is not affected by power supply interruptions.	✘	✓
Raise from off	1	Enable (1) or disable (0)	Enables raise from off feature.	✘	✓
Lower from off	1	Enable (1) or disable (0)	Enables lower from off feature.	✘	✓

Parameter Name	Default Value	Range / Options	Description	Programming Devices	
				UHS4	UN-LCDHS
Local On Scene Fade Rate	1 1 second	1 to 20 0 to 255*	The local scene request sent to all devices with the Local Code specified .	✘	✓
Area On Scene Fade Rate	101 1 second	101 to 220 0 to 255*	The area scene request sent to all devices with the Area Code(s) specified. NOTE: *The Area On Scene is ignored unless one or more Area Codes are set for the corresponding input channel and they match the Area Codes set in any output channel.*	✘	✓
Local Off Scene Fade Rate	20 1 second	1 to 20 0 to 255*	**Time table** **Value** — **Fade rate time** 0 — No fade 1 to 59 — 1 to 59 seconds, in 1 second increments 60 to 177 — 1 to 59.5 minutes, in 0.5 minute increments 178 to 254 — 1 to 20 hours, in 15 minute increments 255 — Infinite fade	✘	✓
Area Off Scene Fade Rate	220 1 second	1 to 20 0 to 255*		✘	✓

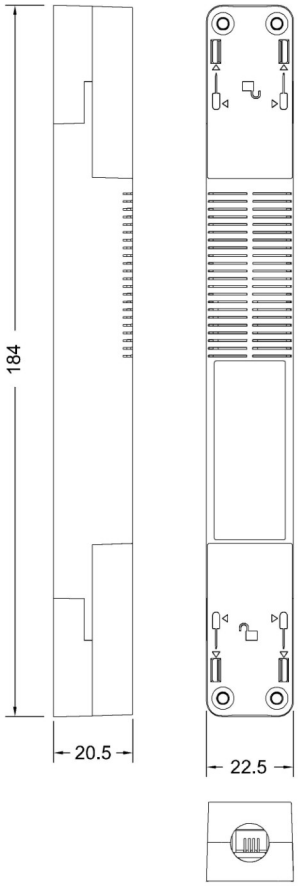
Technical data

Dimensions	See diagrams opposite
Weight	0.1kg
Supply Voltage	230VAC +/- 10%
Frequency	50Hz
Maximum Load	*Channel 1 (switching):* 2A of lighting and/or ventilation including incandescent, fluorescent, compact fluorescent, low voltage (by switching the primary of transformer). *Channel 2 (dimming):* Maximum number of 1-10V ballasts is 10.
Terminal Capacity	AT-SL-ADR 1.5mm^2 Solid only AT-SL-ADR/SA 2.5mm^2 Solid and stranded. Maximum cable OD 10mm.
Radio Frequency	868MHz
Receiver Class	2
Transmitter Duty Cycle	<10% on g3 band (default band) <0.1% on g2 band <1% on g1 band
Range	The maximum RF range between An-10 devices is 100m in free air and up to 30m indoors. However the materials used within a building will vary and this will impact upon the RF range. In reality the nature of how the An-10's hybrid-mesh works means that in most scenarios the individual range of an An-10 product will not be important.
Temperature	0ºC to 35ºC
Humidity	5 to 95% non-condensing
Material (casing)	Flame retardant polycarbonate
Compliance	EN300 220-2 V2.1.2 EN301 489-1 V1.8.1 EN301 489-3 V1.2.1 LVD-2006/95/EC

AT-SL-ADR



AT-SL-ADR/SA



Related products

EBDSPIR-AT-PRM	RF Ceiling PIR presence detector – switched
EBDSPIR-AT-AD	RF Ceiling PIR presence detector – 1-10V dimming
EBDSPIR-AT-DD	RF Ceiling PIR presence detector – DALI/DSI dimming
AT-BB-IN	RF Input unit
AT-SL-R	RF relay controller
AT-SL-R/SA	RF relay controller (standalone)
AT-SL-DDR	RF DALI/DSI + relay controller
AT-SL-DDR/SA	RF DALI/DSI + relay controller (standalone)
VITM4-ATMOD	RF Switching module
VITM6-ATMOD-AD	RF VITM6 1-10V module
VITM6-ATMOD-DD	RF VITM6 DALI/DSI module
UHS4	Programming IR handset
UN-LCDHS	Universal LCD IR handset

FM 45789

EMS 534520

energy systems trade association