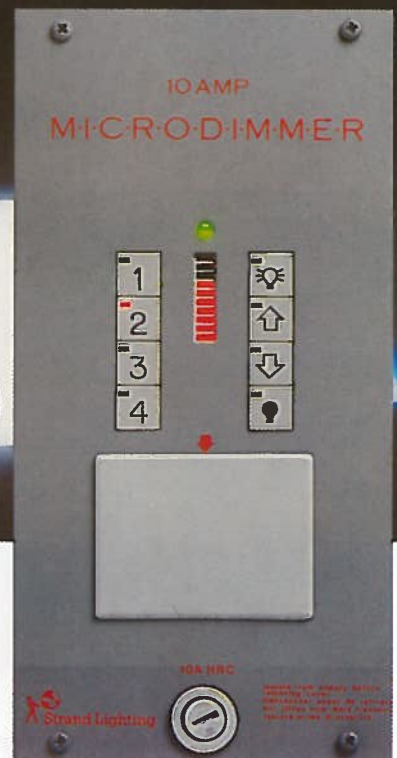


DIGITAL LIGHTING CONTROL

# M·I·C·R·O·D·I·M·M·E·R



 **Strand Lighting**

## THE MICRODIMMER RANGE

Introducing a new generation of microprocessor-based unit dimmers and remote control stations. Each digital dimmer complete with inbuilt memory for recording preset lighting states and fade rates.

Sophisticated in application, yet simple to operate

● Microdimmers link together for the enhanced capabilities of *scene-setting*.

● Lighting scenes can be remotely recorded from Control Stations.

● Microdimmers are suitable for a wide range of lighting loads including fluorescent, low voltage, tungsten, cold cathode and neon.

● The aesthetically styled Control Stations feature concealed fixings and a choice of face plate finish.

● Microdimmers have full features to operate either alone or with remote Control Stations.

● A special internal *watchdog* monitoring circuit constantly checks for correct Microdimmer operation.

● Available in three versions: 5, 10 and 20 Amp ratings.

● Complies with international safety and RFI suppression requirements.

● Asymmetry detection for safe operation on low voltage or other inductive loads.

● A *closed-loop* option for stabilised output to combat fluctuating mains supply.

● Special features for fluorescent lighting loads.



Strand Lighting



Lighting flexibility throughout the day. Scene setting with Microdimmers



● A bright and welcoming hotel breakfast with uplighting to complement the early morning sun.



● Another Preset creates the scene for a business lunch.



● And a choice of evening settings. A restful ambience for a relaxed meal.



● Or a subtle candlelit effect for a romantic atmosphere.



## MICRODIMMER OPERATION

Using Microdimmer is simplicity itself – just install and operate.

All user-adjustable parameters for preset settings and fade rates are set at sensible default values to give instant operation when Microdimmer is first powered up.

Four Presets are available in addition to OFF and FULL.

A Preset is a stored dimmer output level which can be set anywhere between blackout (OFF) and FULL.

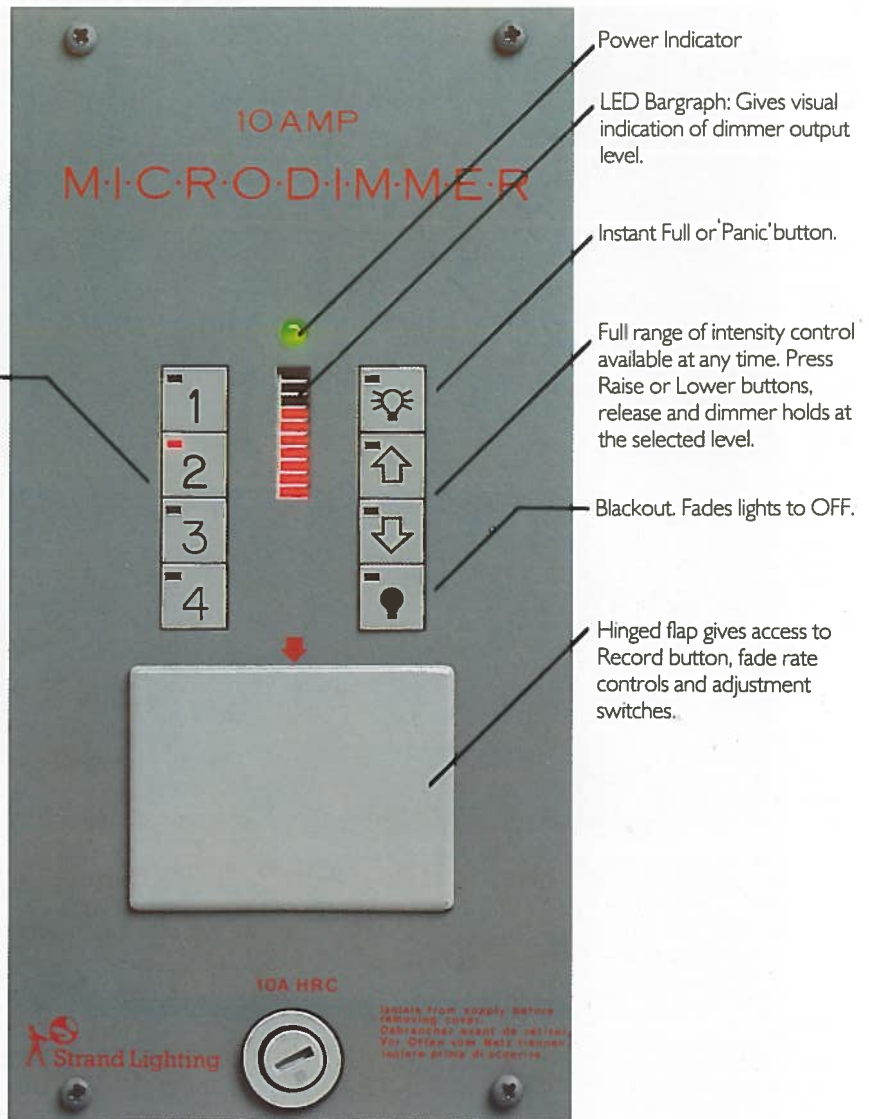
Press a Preset button to start a fade, either up or down, to the level recorded for that Preset.

## USING SCENE-SET

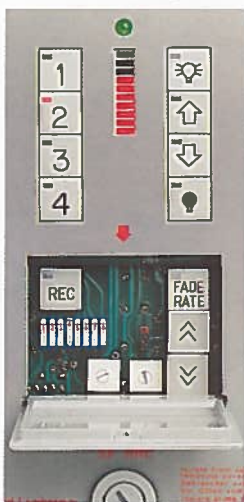
The powerful capabilities of Microdimmer are unleashed when a group of dimmers is installed and connected in SCENE-SET mode.

Used in this configuration, 4 different overall lighting scenes can be created and recorded across a group of dimmers simultaneously.

Hence a number of different types of lighting circuits can be connected to separate dimmers, each dimmer with its own independent stored Preset levels, yet they can all be operated in unison from a common Control Station to play back overall recorded lighting scenes.



## HOW TO RECORD



### PRESETS

To alter any of the recorded Preset levels is a simple 2-button process. First set the new level required, for instance by using Raise and Lower buttons. A small hinged flap gives access to the record button. Pressing the RECORD button, immediately followed by one of the four PRESET buttons will instantly record the existing dimmer output level as the new Preset value. Then every time that Preset button is selected, the dimmer returns to that same recorded level.

### FADE RATES

All the operating buttons except for *Instant Full* can have their fade rates user-adjusted to preferred values. Each Preset button can be assigned its own distinct Up and a different Down fade rate. When a Preset button is pushed, the Microdimmer automatically selects the appropriate rate, either Up or Down, relative to the existing level.

Three rate-adjustment buttons are provided inside the flap, which are used in conjunction with the LED bargraph to give visual indication of settings when in this mode.

### RECORD DISABLE

Once Preset states have been created and recorded into Microdimmer's memory it may be preferred to secure these settings to protect against deliberate or inadvertent alteration. A switch is provided inside the access flap which disables the RECORD button for this purpose. Disabling the RECORD button leaves all other functions fully operative.

## LIGHTING LOAD TYPES

Microdimmer is suitable for dimming and controlling:-

### TUNGSTEN

### LOW VOLTAGE (Transformer-fed)

### NEON AND COLD CATHODE

### FLUORESCENT\* (T12 or T8 tubes)

\* Suitable dimmable ballast gear is required in the luminaires. Refer to Strand Lighting's 'Guide to Fluorescent Dimming'.

## MICRODIMMER CONTROL STATIONS

Remote Controllers of Unrivalled Quality.

All Control Stations have four usable Presets in addition to FULL and OFF.

Slider versions give the facility to record lighting scenes from within the room.

Simultaneous operation of multiple Microdimmers from any Station to play back lighting 'scenes'.

Control Stations can be used in any combination – slider fader versions operate on 'Take Control' principle.

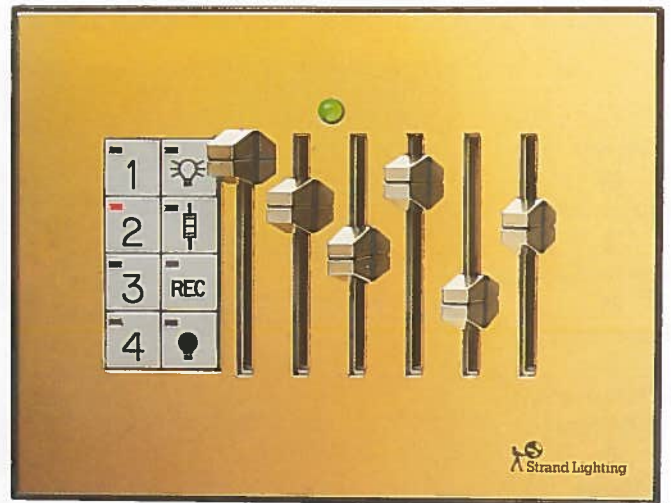
Elegant low profile design. Buttons have tactile feedback and embedded LED indicator.

Alternative fascia plate options. Standard white finish; brass or dark anodised alternatives with numerous custom finish possibilities to special order.

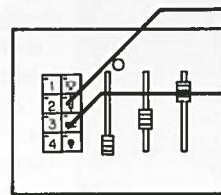
Clean appearance. Concealed fixings eliminate unsightly screw-heads from the faceplate.

Indicator to locate the Control Station in darkness.

Optional LED bargraph: Mimics the dimmer output level. Available with 'Preset Select' version Control Station.



Preset with Sliders

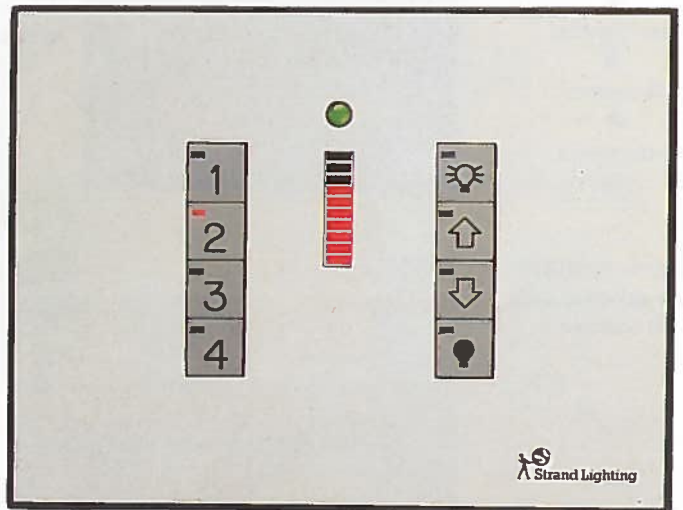


### Select Sliders

Transfers control directly to the sliders for manual control of levels.

### REC button

Records lighting scenes directly from sliders into a Preset. To record existing state, press REC followed by one of the four Preset buttons. The REC button may be disabled if preferred after recording the levels.



Preset Select with Bargraph

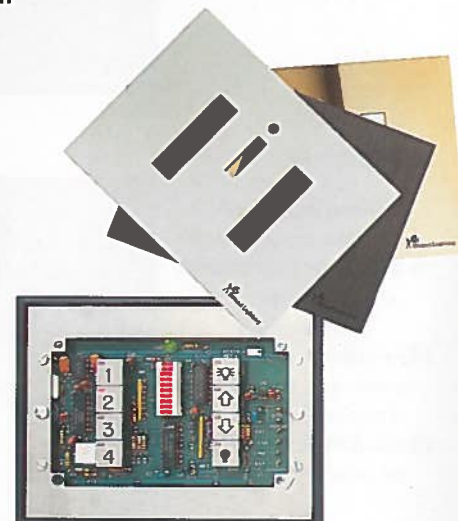
## CONTROL STATION SPECIFICATION

Control Stations operate on safe low voltage signals. The specified maximum length of control cable is 500 metres.

All Control Stations are supplied complete with a standard double-gang backbox of 35mm depth for accurate, horizontal flush wall mounting.

Standard fascia plate: White; black edge trim

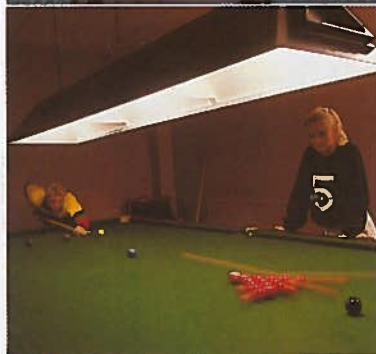
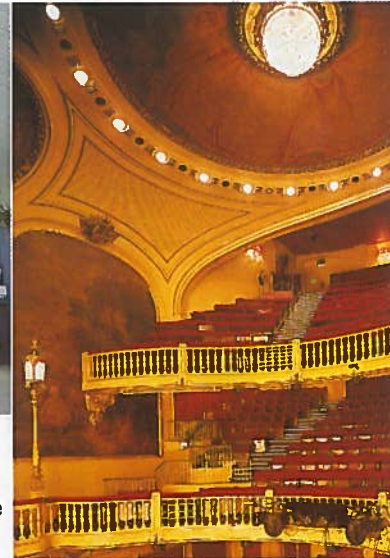
Dimensions: 147mm wide x 110mm high





## SCENES FOR BUSINESS AND LEISURE

- Hotels ●
- Restaurants ●
- Conference Centres ●
- Showrooms ●
- Galleries and Museums ●
- Shops ●
- Schools and Colleges ●
- Clubs and Pubs ●
- Offices ●
- Theatres and Cinemas ●
- Churches ●
- Residential ●
- Airports ●
- Hospitals ●



In any environment, well designed lighting with effective control makes an important contribution to efficiency and comfort. The possibilities available from a fixed lighting scheme can be extended to a surprising degree by including Microdimmer for control.

Microdimmer offers flexibility without fuss – today's solution for digital lighting control.



At work or leisure  
Microdimmer sets  
the scene



From informal business discussions to a slide presentation or at a formal meeting, Microdimmer preset levels are quick to respond to the flexibility and variety of working needs.





## SPECIFICATION

### OPERATIONAL DATA

Microdimmer may be configured in any of the following ways:

1 Singly and operated from its own local controls: Four PRESETS plus FULL (instant), Fade to OFF, RAISE (whilst button pressed) and LOWER (whilst button pressed).

2 Singly and controlled from remote Control Station(s). Either PRESET SELECT WITH BARGRAPH (09 612 18) or PRESET WITH SINGLE FADER (09 613 01). Multiple Control Stations are permissible, as are combinations of Station type.

3 Microdimmers grouped together in SLAVE mode: where large loads are to be dimmed, the lighting load can be split into sections to be connected to a number of dimmers. These dimmers are "slaved" together to give overall, uniform dimming of the total load. Control Stations normally used are as for (2) above.

4 Microdimmers grouped together in SCENE-SET mode. This feature permits remote Control Stations to be used to select overall lighting scenes rather than uniform output levels. Particularly where PRESET WITH FADER Stations are used, the sliders can be used to balance the lighting for a desired effect and then record the scene from the Control Station itself.

Lighting circuits are spread across a group of Microdimmers which operate in unison yet with independently stored Preset levels. Pressing a Preset button on the remote Control Station thus recalls the exact scene as recorded previously from the slider faders. As well as PRESET WITH FADER Control Stations, the PRESET SELECT Stations (09 611 08) can also be used to control a group of dimmers configured for scene-setting.

#### Default Settings

All Microdimmer user-adjustable parameters (e.g. preset levels, fade rates, etc.) have factory set default values to give instant operation when first powered up. Subsequent changes to these values are secure following future power downs. A special key sequence can re-establish default settings if required. Default preset levels are: 1: Full, 2: 75%, 3: 50% and 4: 33% light intensity. Full range of raise/lower, 5 secs. Fade to off, 10 secs.

#### Adjusting Fade Rates

Microdimmer software permits unique fade-rate values to be assigned to all presets (excluding Instant Full). The RAISE, LOWER and OFF buttons each have their own appropriate rate settings, whereas each of the PRESETS have both an 'Up' and a 'Down' rate. When a Preset button is pressed, the appropriate fade rate is automatically selected according to whether the dimmer output is to ascend or descend from its existing level.

Fade rate can only be altered from within the access flap. Using the FADE RATE button, the value assigned to any particular fade is graphically represented on the dimmer LED bargraph. Once in this mode, the value can be adjusted using (↗) or (↘) to increase or decrease the rate according to requirements. Pressing FADE RATE once more returns the dimmer to normal operation.

### ELECTRICAL DATA

#### Supply

220/240 Volts A.C. (± 10%) 50Hz. Single phase neutral and earth. For 3-phase installations, use separate dimmers per phase.

#### Terminations LOAD and SUPPLY

	MIN.	MAX.
5A	1.5mm <sup>2</sup>	2.5mm <sup>2</sup>
10A	2.5mm <sup>2</sup>	2.5mm <sup>2</sup>
20A	2.5mm <sup>2</sup>	6.0mm <sup>2</sup>

#### CONTROL

Use low voltage signal cable. e.g. 16/0.2mm

#### Power devices

Pair of back-to-back thyristors.

#### Processor

Single chip microcontroller.

#### Filter

Rise-time limited by toroidal filter.

#### Ratings & Protection

5 Amp: 5A HRC cartridge fuse. Access from front panel.  
10 Amp: 10A HRC cartridge fuse. Access from front panel.  
20 Amp: 20A circuit breaker and additional internal fusing for protection of fluorescent heater (LF) supply.

#### 'Watchdog' Circuit

The dimmer contains a 'watchdog' circuit which, if deviations from the main control program are detected, causes a reset which reloads the conditions which were prevailing before the disturbance occurred.

#### Set-up Switches

A miniature switchpack within the access flap provides the following options and facilities:

1 Closed loop option: Output is automatically stabilised to compensate for fluctuations in supply voltage. (Tungsten or inductive loads only).

2 & 3 Top/Bottom Set: Used in conjunction with the adjustment Potentiometer, these switches are used to set the dimmer's top and bottom end cut-off points.

4 Record Disable: Leaving switch 'Off' disables the REC button. ('On' for normal operation).

5 Mode Select: Used in selecting either 'SLAVE' or 'SCENE-SET' mode in multi-dimmer applications.

6 Tungsten/Fluorescent: Incandescent Fluorescent selection.

7 Fade Rate Range: Normal/Extended fade-time range selector (either 0.3 - 30 secs or 3 - 420 secs).

8 Heater Save Option: If selected fluorescent 'Fixed' output (LF) will automatically disconnect when tubes are operated above 95% light to reduce power consumption.

#### Installed Environment

For mounting vertically with adequate allowance made for heat dissipated from unit. Maximum ambient temperature 35°C. Dimmer filter may emit low buzzing sound so avoid acoustically sensitive areas. Avoid close proximity of dimmer and cables with electrically noisy apparatus (e.g. large motors, projectors, etc.).

#### Compliance with Standards

Electrical safety is in accordance with IEC 65. RFI requirements of BS 800 and VDE 0875 are met.

#### Suitable Load Types

For fluorescent loads, luminaires must include compatible types of Dimmable Control-gear in accordance with separate guidelines published by Strand Commercial Lighting.\* Maximum fluorescent loadings are shown below:

For safe operation on inductive loads Microdimmer incorporates asymmetry detection circuitry. See also Strand Commercial Lighting's "Guide to Dimming of Transformer-fed Loads".

\* See "A Guide to Fluorescent Dimming"

Dimmer Rating	MAXIMUM NUMBER OF TUBES PER DIMMER				
	2ft tubes (600mm)		4ft tubes (1200mm)	5ft tubes (1500mm)	6ft tubes (1800mm)
	T12	T8	T12/T8	T12/T8	T12/T8
5 AMP	20	13	10	7	6
10 AMP	40	26	20	16	15
20 AMP	80	52	40	32	30

### ORDERING INFORMATION

Dimmers	Catalogue Number
5 Amp Microdimmer	09 502 05
10 Amp Microdimmer	09 503 10
20 Amp Microdimmer	09 504 20
<b>Control Stations complete (white face plate)</b>	
Preset Select	09 611 08
Preset Select with Bargraph	09 612 18
Preset with 1 Fader	09 613 01
Preset with 2 Faders	09 614 02
Preset with 3 Faders	09 615 03
Preset with 4 Faders	09 616 04
Preset with 6 Faders	09 617 06

	Catalogue Number	
	Dark Anodised Face Plate Only	Brass Face Plate Only
Preset Select	09 621 08	09 631 08
Preset Select with Bargraph	09 622 28	09 632 38
Preset with 1 Fader	09 623 11	09 633 21
Preset with 2 Faders	09 624 12	09 634 22
Preset with 3 Faders	09 625 13	09 635 23
Preset with 4 Faders	09 626 14	09 636 24
Preset with 6 Faders	09 627 16	09 637 26

NOTE: Alternative face plates are for use with the Control Stations listed above.

### MECHANICAL DATA

	5A	10A	20A
Height mm	216	216	216
Width mm	112	112	170
Depth mm	77	92	97
Weight kg.	1.75	1.85	3.20

#### Cable access

25mm Ø knockouts are provided in top and bottom panels. 20A versions have a pair of adjacent knockouts top and bottom. 5A has additional rear knockout.

Paint finish - grey to BS4800; legends silkscreened red, key caps engraved, black.

The company reserve the right to make any variation in design or construction to equipment described.

Country of Origin Great Britain



## Strand Lighting

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