

GENERAL DESCRIPTION:

Colt Solarfin is a fixed or moveable external solar shading system made from aluminium extrusions designed to reduce heat gains and glare in summer and heat loss in winter. Solarfin may be installed either vertically or horizontally in front of the façade or on the roof. It can be either fixed or moveable.

APPLICATIONS:

Shading of all kinds of buildings

FEATURES AND BENEFITS:

*A wide range of configurations and colours.
Flexible controls. Robust, corrosion-resistant aluminium with stainless steel components.
Modular pre-assembled build can reduce install time.*

For technical details please see the following pages.

FEATURES AND BENEFITS

High performance

Excellent heat reflection along with targeted transmission of light to the building.

Reduced energy consumption

Solarfin reduces cooling loads.

A wide range of louvres

Solarfin louvres are available in various configurations and colours to meet specific design requirements.

Rotation of louvres

When using electric motors with gearboxes, the louvres can be moved round 360°.

Potential to reduce installation time

Solarfin can be provided in modular pre-assembled form.

DESCRIPTION

Solarfin comprises a series of extruded aluminium louvres mounted into a support frame. The louvres may be fixed at any angle and can rotate under motorised control within a range of up to 360° depending on the control system selected. With 8 standard profiles, louvres are available as one-piece extrusions in widths up to 400mm and as multiple clipped together extrusions in widths up to 1050mm.

Spans can be up to 6m without intermediate support and up to 10m with intermediate bracing rods. Fabricated and perforated fins are also available.

Colt has a wide range of standard profiles but bespoke profiles and designs can be developed on larger projects. Other shapes than elliptical are available, including rectangular and parallelogram ones.

Solarfin is available either mill aluminium, polyester powder coated to a RAL colour or anodised.

CONTROLLABLE VERSUS FIXED LOUVRES AND CONTROL ROUTINES

A fixed solar shading system may only truly be effective on a south facing building.

Controllable solar shading systems can better optimise the flows of heat and light energy than fixed solar shading systems. Since the louvres are designed to follow the path of the sun, daylight levels may be optimised whilst radiation levels are reduced to a minimum. The likelihood of over-shading or under-shading that frequently occurs with fixed solar shading is reduced, since the louvres are always set to optimum shading angle.

An additional benefit of movable systems is that when they are closed, they can provide additional security and can help reduce winter heat loss.

Colt ICS 4-Link or Soltronic are the standard controls for Solarfin. These provide accurate control of the louvre blades, continually calculating the position of the sun and together with internal temperature and lighting sensors controlling the position of the louvres. On dull days, light sensors can operate to fully open the louvres to allow the occupants full vision to the outside at all times. Remote operation is also available via an internal modem interface.



The facade elements ensure optimum levels of daylight and reduction in cooling loads whilst providing a striking aesthetic.

CONTROLS

SolTronic III is a micro-processor driven controller of moveable solar shading systems. Using sun tracking routines, the system calculates the position of the sun for any particular time or place and is programmed with data relating to the geometry of the louvre systems.

It can use data from sensors to modify its routines. SolTronic III provides exact positioning of solar shading louvres and folding or sliding shutter systems.

SolTronic III controls local Motor Control Units which then have the task of moving the actuators attached to the louvres.

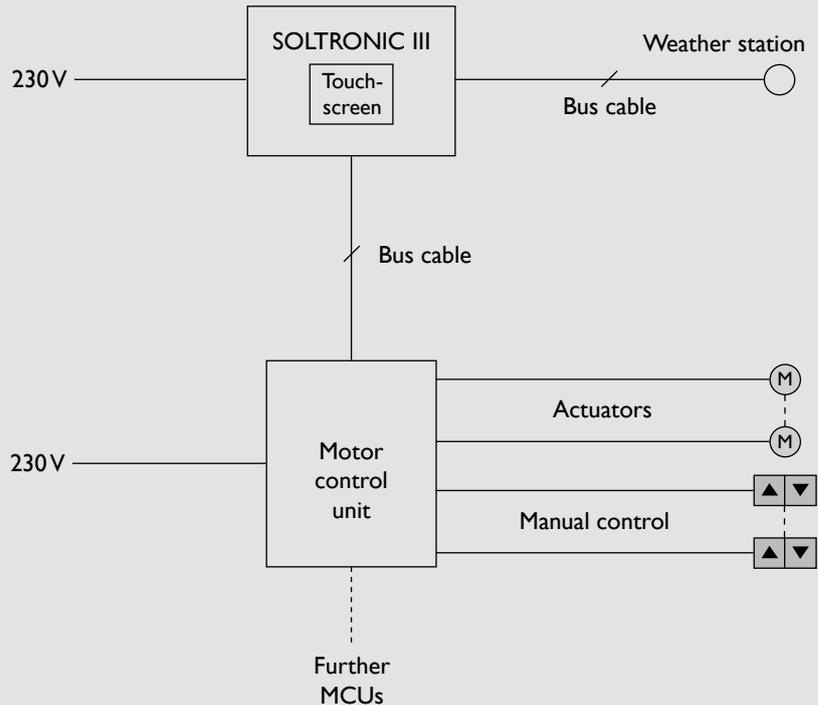
The Motor Control Units are supplied pre-wired in accordance with the number and configuration of the actuators for the specific project. Each local Motor Control Unit is connected with SolTronic III by a bus cable system. It is possible to connect up to 15 groups each with 15 actuators to the system (thus resulting in a total of 225 actuators). A hand switch can be fitted to each actuator and each Motor Control Unit for individual control of the actuators.

FEATURES AND BENEFITS OF SOLTRONIC III:

- Evaluation of inputs from weather sensors
- Pre-programmable positioning for when the louvres become iced up, and for storm or cleaning modes
- Desired positions and parameters can be programmed for each group
- Plug and play function
- Easy commissioning – the colour display guides the user through the commissioning routine and no laptop is needed
- Weather data transmitted from a combi sensor. This can be directly connected to the MCU Bus line



WIRING SCHEMATIC



SOLTRONIC III (CONTROL PANEL FOR LOCAL MOTOR CONTROL UNITS)

- 230V/50Hz supply (10 A fuse)
- F or positioning in dry closed rooms
- Operating temperature from 10-40°C
- Plastic housing
- Dimensions width 360 mm x height 320 mm x depth 170 mm

LOCAL MOTOR CONTROL UNITS

- Each connection drives a 230 AC actuator
- Automatic measurement of run time
- Attachment of room local switch possible
- Positioning in a dry closed room
- Operating temperature 10 - 40°C
- Plastic housing

LOCAL MOTOR CONTROL UNIT FOR UP TO 5 ACTUATORS

- Supply 230V / 50Hz (10A fuse)
- Dimensions: 420 x 300 x 150 mm (WxHxD)

MOTOR CONTROL UNIT FOR UP TO 11 ACTUATORS

- Supply 230V / 50Hz (16A fuse)
- Dimensions: 420 x 430 x 150 mm (WxHxD)

MOTOR CONTROL UNIT FOR UP TO 15 ACTUATORS

- Supply 230V / 50Hz (20A fuse)
- Dimensions: 420 x 600 x 150 mm (WxHxD)

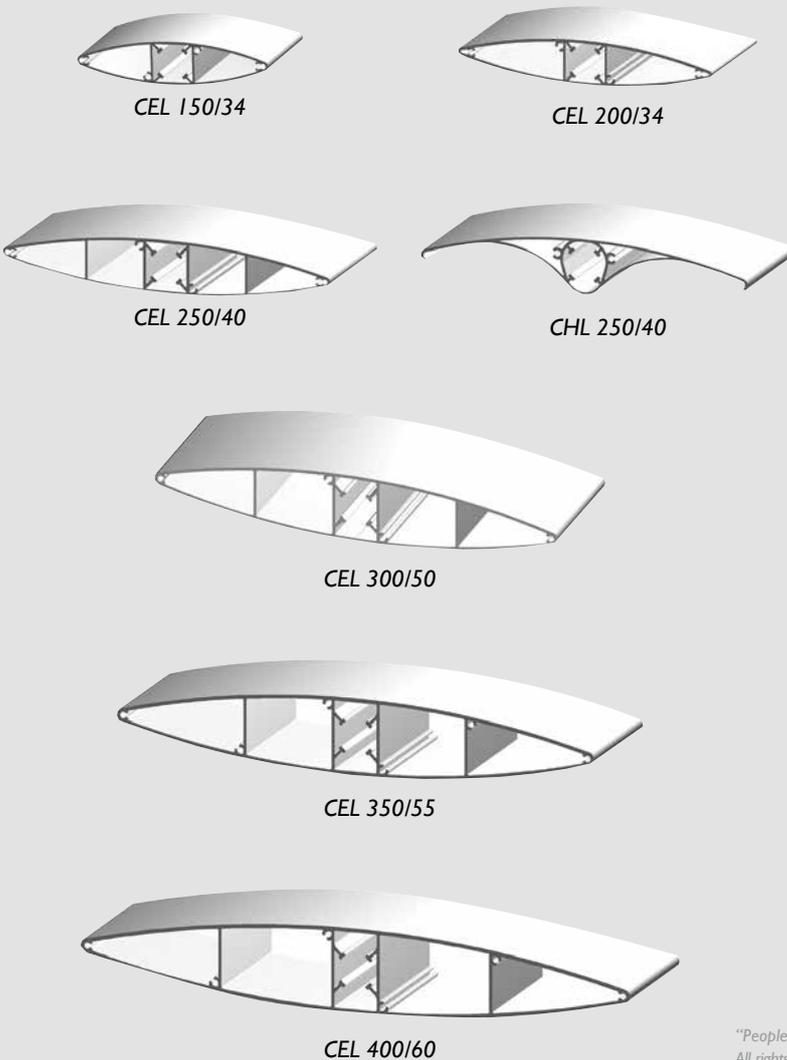


A SELECTION OF STANDARD SOLARFIN EXTRUSIONS

DIMENSIONS (mm)	BLADE TYPE	WIDTH	HEIGHT
	CEL 150/34	150	34
	CEL 200/34	200	34
	CEL 250/40	250	40
	CHL 250/40	250	40
	CFL 270/45	270	45
	CEL 300/50	300	50
	CEL 350/55	350	55
	CEL 400/60	400	60
	CEL 500/70	500	70
	CPL* 580/70	580	70
	CPL* 750/80	750	80

Linear expansion at $\Delta T = 50^{\circ}C$ 1.2 mm/m
 Anodising thickness / colour 15-25 microns / uniform appearance
 Coating thickness / colour Approx. 60 microns / RAL
 System grid Project specific
 Façade connections Project specific
 Weight 18 - 24 kg/m²
 * CPL is a parallelogram-shaped louvre blade. Rectangular blades are also available on request.

EXAMPLE SHAPES



SOLARFIN EXAMPLE INSTALLATION

