

Low energy operators



**Electromagnetic Door Controls
& Low Energy Operators**



FM 00401



EMS 66705

When specifying a product from Ingersoll Rand Security Technologies you can be assured that an uncompromising attention to detail has been given to every stage of design and manufacture. This ensures that its products and systems meet the highest possible quality and conformity certifications and exceed the requirements of all applicable European Standards.

A global leader in every sense of the word, Ingersoll Rand Security Technologies has an unrivalled track record in satisfying the demands of architects, designers, specifiers and building contractors throughout the world.

Ingersoll Rand Security Technologies manufactures a portfolio of market leading products, including Briton, the UK's number one brand of door controls. The Briton name is synonymous with high quality design, reliability and durability and is at the forefront of supplying products that meet the new European CPD requirements, such as one of the first ranges of CE marked fire exit hardware and door controls.



Briton

Door hardware and security products

Normbau

Coloured nylon design systems

Randi

Scandinavian stainless steel design systems

Schlage

Commercial and domestic security systems

CISA

Hotel locking and security systems

In addition, Ingersoll Rand Security Technologies produces a wide selection of contemporary door hardware, including Randi, an architect-designed suite of stainless steel door furniture and bathroom fittings, manufactured at its factory in Denmark.

An extensive series of coloured nylon and stainless steel products are manufactured in the company's German facility under the Normbau brand. The range incorporates lever and pull handles as well as complementary accessories, a comprehensive railing system and products for people with special needs.

Manufactured in Italy and designed to suit even the most demanding professional requirements in the security sector, Ingersoll Rand Security Technologies' CISA range incorporates traditional hardware products, hotel locks and advanced access control systems with 'smart card'.

Briton Electrical Door Controls

The Briton overhead door closer range provides a multi-level approach to door closing solutions to suit all projects, door applications and budgets. From the simplicity of a mechanical non-fire door closer for basic functionality, to a microprocessor controlled low energy operator for special applications e.g. for doors required to satisfy Part M of the Building Regulations, there are Briton products to meet your needs.



- Level 5 - Electromagnetic & Low Energy Operators
Refer to Briton 2100 Series, Briton 996 Series and Briton 2500 Series in this brochure
- Level 4 - Severe Heavy Duty Mechanical Door Controls
Refer to Briton 2100 Series and LCN 4000 Series product information
- Level 3 - Heavy Duty Mechanical Door Controls
Refer to the Briton 2000 Series product information
- Level 2 - Medium Duty Mechanical Door Controls - with options
Refer to the Briton 1100 Series product information
- Level 1 - Low-Medium Duty Mechanical Door Controls - no options
Refer to the Briton 121 Series product information

The case for electromagnetic hold-open or swing-free door controls and low energy operators is well defined. Their primary function is to assist in the ease of circulation either into or within a building without compromising fire safety. They form an essential tool in meeting the exacting requirements of The Disability Discrimination Act and Approved Document M (2004) of the Building Regulations.

Level 5 - Briton 2500 Series Low Energy Operators

The Briton 2500 Series is a power assisted, low energy swing door operator that allows users total freedom from manual door operation. It is designed to provide safe and easy access for all users and can be installed on new or existing internal and external doors.

- Surface mounted, suitable for new or retrofit applications
- Automatic activation or 'Push-and-Go' facility
- Microprocessor controlled functions
- Fully adjustable opening speed & closing force
- Delayed closing allowing slow moving traffic application



Briton 2550 Low Energy Operator

Level 5 - Briton 996 Series Electromagnetic Door Controls

The Briton 996 electromagnetic closer is designed specifically for use in medium or heavy traffic applications where a conventional closer would impede the flow of people, such as a hospital corridor or cinema foyer.

The Briton 996 Series includes:

- Fully certified to EN1155, EN1634, CE Marked and Certifire Approved CF109
- Fixed sizes 3-5
- Site selectable for hold-open or swing-free operation
- Regular and Parallel arm variants
- 5 finish options



Briton 996

Level 5 - Briton 2130B.TE Electromagnetic Door Control

The Briton 2130B.TE electromagnetic hold-open closer forms an integral part of the full Briton 2100 Series of overhead door closers. It is ideally suited to high quality specifications where a conventional door closer would impede the flow of traffic.

The Briton 2130B.TE electromagnetic closer features:

- Fully certified to EN1155, EN1634, CE Marked and Certifire Approved CF111
- Adjustable power sizes 2 to 4
- Electromagnetic Track arm hold-open mechanism
- Accufit installation system for all models
- Range of 3 cover variants combined with 20 finish options
- Ability to suite with Briton 2100 Series and Briton 2000 Series mechanical closers to provide a visually related total solution



Briton 2130B.TE

Legislation concerning the design of the built environment to facilitate disabled access has attached an increased importance to automatic operators, low energy operators and electromagnetic door controls. These products are seen as being particularly useful in increasing the ease of access and satisfy the requirements of Approved Document M:2004 (ADM04) of the Building Regulations (England & Wales), BS 8300 and, by extension, the aims of The Disability Discrimination Act Parts II and III. The notes below are intended to provide a basic guide to the selection of the most appropriate solution to meet the legislation.

A comprehensive Design Guide is available to provide specification advice on all aspects of architectural hardware. Please contact our Technical Services Department for further information.

Objectives for door operation

The objective in an inclusive environment is for all people, to have independent access; not only into buildings but also to the rooms and spaces within them. At the same time there are situations, such as in case of fire, when it is essential that doors close effectively.

Opening forces

ADM still actually states 20N as the maximum opening force. BS 8300, as amended, contains a more complicated 'Two Phase' opening force rule, based on a maximum initial force of 30N.

BS 8300 Incorporating Amendment No.1 - 7.3.1 states:

"For disabled people to have independent access through single or double swing doors, the opening force, when measured at the leading edge of the door, should not be more than 30N from 0° (the door in the closed position) to 30° open, and not more than 22.5N from 30° to 60° of the opening cycle."

External doors

External entrance doors, particularly those to buildings used by the general public, need to be convenient for a wide variety of users, e.g. parents with children in push-chairs, elderly people and wheelchair users.

ADM04 - 2.13 states: "Doors to accessible entrances will satisfy Requirement M1 or M2 if :

a. where required to be self-closing, a power operated door opening and closing system is used when, through calculation and experience, it appears that it will not be possible otherwise for a person to open the door using a force no greater than 20N at the leading edge"

In addition, swing doors need to be able to resist wind forces. In such circumstances, doors with conventional closers are likely to make access difficult for the majority of users. Consequently, there is a general preference for a powered door solution.

BS 8300 - 6.3.2 states: " Where (the force of) the door closing device is insufficient to keep an entrance door closed under windy conditions, consideration should be given to installing one of the following door closing systems:

- a. a power operated (automatic) door - sliding, balanced or swing;
- b. a low energy swing door;
- c. a power operated revolving door arrangement;
- d. an entrance lobby or air lock system of inner and outer doors"

Swing-action entrance doors which are required to be fully accessible but may not be suited to full automation, are best equipped with power assisted, low-energy operators. These are commonly available as electromechanical devices (See Briton 2500 Series Page 5), although pneumatic operators are also available for specific, demanding applications (details on request).



A comprehensive design guide for specifying doors and hardware is available from Ingersoll Rand Security Technologies.

External doors continued

BS 8300 - 6.3.4 states: "A low energy power operated door operator should be considered for use on swing doors with relatively low levels of pedestrian usage as these doors can either work in manual mode or be set to provide powered opening assistance to users when required, either in 'push-and-go' or 'power-assist' modes. After a hold-open period, the swing door self-closes in the same way as a conventional door closer."

Note 1: The 'Push-and-Go' feature activates when the door is pushed beyond 25mm.

Note 2: Guidance on the safe use of low energy swing doors is given in BS 7036-4

Non-Fire doors

All non-fire doors need to be fully accessible by wheelchair users. An exception is made only for room doors - such as in hotels - where an equivalent wheelchair accessible room is available for independent use.

For non-fire doors to be able to self-close and still meet the newer 30N initial opening force criterion of BS 8300, it is necessary to use a high efficiency, variable power closer adjusted to the lowest strength setting (power size 1). At this setting the closing force is much reduced and even the resistance of a latch can be an issue. Locks with a soft-action latch will help to ensure that the door closes into the frame correctly.

Internal doors

Internal doors are principally specified and provided for:

- Fire and smoke control
- Privacy
- Acoustic control

For information on additional mechanical door control products please refer to the Briton 2100 Series and Briton Contract Closer brochures



Fire and smoke control doors

European Standard EN 1154 (the performance standard for mechanical closers suitable for fire rated doors) indicates that a fire door must be held shut by a door closer with a minimum power size 3. This force is such that the corresponding opening force is much greater than 20 Newtons. In these situations ADM04 recommends the use of electromagnetic or low-energy door controls.

ADM04 - 3.10 states: "Internal doors will satisfy Requirement M1 or M2 if:

k. fire doors, particularly those in corridors, are held open with an electro-magnetic device, but self-close when:

- activated by smoke detectors linked to the door individually, or to a main fire / smoke alarm system;
- the power supply fails (when) activated by a hand operated switch"

So for cross-corridor doors, the most satisfactory solution is to use electromagnetic 'hold-open' devices to retain the doors in the open position. (See Briton 2130B.TE Page 15). For doors into individual rooms - which may be required to be closed for privacy, acoustic control or draught prevention - an electromagnetic 'free-swing' device is preferable. (See Briton 996 Page 11)

In both cases the closing function is activated by one of the events described in Clause 3.10 above.

Note: Fire Authorities will always recommend using detectors linked to an Automatic Fire Detection system to reduce the risks associated with the spread of 'Cold Smoke' throughout a building.

BS 8300 also supports this solution. "Where the force required to open a fire door on a circulation route exceeds the limits described in 7.3.1, an electrically powered hold open device ... which conforms to the requirements of (BS) EN 1155 should be installed."

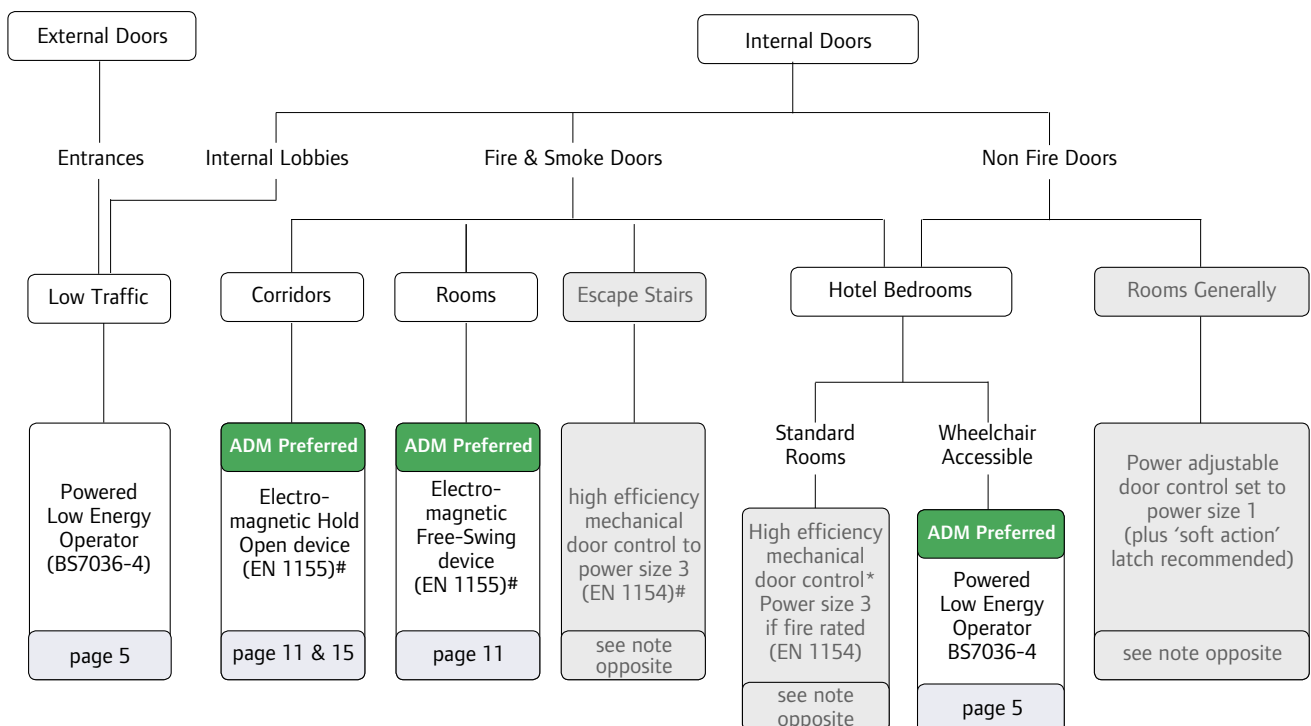


Force Gauge

A simple, inexpensive door force gauge can be used to test existing openings against accessibility guidelines.



Product Selector



In addition to these mechanical standards the device must also have relevant fire resistance testing certification (i.e EN 1634-1)

* BS 8300 recommendation (30N max.) should be noted.

EN 1154 is the European standard for “controlled door closing devices” ; it tests mechanical door closer performance. Adopted by EU member states, it becomes a mandatory requirement for CE marking in 2004.

EN 1155 specifies requirements for separate hold open devices and also for hold open mechanisms incorporated in a door closer intended to be used on fire/smoke compartmentation doors. Electrically powered hold open devices for swing doors manufactured according to this European Standard can hold a swing door at a fixed position or can allow

the door to swing freely. In each case interruption of the electrical supply will cause the door to close positively.

Electrically powered hold open devices manufactured in accordance with this European Standard are recommended for use wherever there is a requirement for reliable hold open and release of self-closing fire/smoke door assemblies.

Each standard prescribes the test methodology for randomly selected production line products. The test data, together with supporting technical evaluation, results in a classification code as shown below.

Door closers for fire doors are covered by a Construction Products Directive mandate. Compliance with EN 1154 and EN 1155, supported by suitable evidence, therefore allows the application of the CE mark.

Category of use

EN 1154 - Defines the angle from which the closer will close the door in a controlled manner. Most Briton closers will operate from 180° - Grade 4.

EN 1155 - Only one category of use is identified for electrically powered hold open devices for use by the public & others with little incentive to take care, i.e. where there is some chance of misuse of the door.

Door size/mass

EN 1154 - Identifies the power size of the closer as defined by the door size and mass. Adjustable power closers are defined by the upper and lower power sizes.

EN 1155 - Hold open power size is suitable for a range of power sizes. Both the max. and min. power sizes are defined

max. door size	closer size						
	1	2	3	4	5	6	7
width (mm)	750	850	950	1100	1250	1400	1600
weight (kg)	20	40	60	80	100	120	160

Safety

EN 1154 & EN 1155 - The part of the Standard which ensures the operation and suitability of the closer is hazard free. It provides peace of mind that the closer operates without risk to the user. Only Grade 1 is identified.

EN 1155 - All electrically powered hold open devices are required to satisfy the requirement of safety in use.

Briton certification mx

	2130B.TE	9963 9964 9965	2550
● certified performance			
EN 1154 (500,000 cycles)	●	●	
EN 1155	●	●	
CE Marked	●	●	
Certifire Approved	●	●	
Extended testing (2 million cycles)	●		
EN 1634 fire test (up to 2 hours)	●	●	●

EN 1154

4
(3/4)

8
(8)

3
(1 - 7)

1
(0/1)

1
(1)

3
(0 - 4)

EN 1155

3
(3)

8
(5/8)

3
(3 - 7)

1
(1)

1
(1)

3
(0 - 4)

Test Cycles

EN 1154 - Prescribes a series of test cycles. Only 1 grade is identified for 500,000 cycles

EN 1155 - Prescribes a series of test cycles
Grade 5: 50,000 test cycles for all electrically powered hold open devices

Grade 8: 500,000 test cycled for all electrically powered hold open and free swing door closers and devices that contain operating arms.

Fire Behaviour

EN 1154 & EN 1155 - Based on the results of fire testing to EN 1634 ensuring the door remains closed under temperatures which can exceed 1000°C. Grade 1 closers are deemed suitable for use on fire doors. Grade 0 are not suitable for use on fire doors. All Briton door controls in this range are Grade 1.

Corrosion Resistance

EN 1154 & EN 1155 - A salt spray test to ascertain corrosion resistance thereby establishing suitability for use in varying environmental conditions. Five grades are identified from 0 (no identified resistance) to 4 (very high resistance). All Briton door closers achieve at least Grade 3 and are suitable for use in wet, polluted environments and most exterior applications.

BS 7036

BS 7036 is the British Standard Code of Practice providing general guidance on the use and maintenance of power operated doors used by the general public.

Part 4 of the BS 7036 specifically relates to Low Energy Swing Operators. It provides guidance to manufacturers, suppliers, installers, specifiers, occupiers and property owners on the specific recommendations for the provision, installation, safe operation and maintenance of low energy swing door systems with a view to safeguarding traffic against the risk of accidents.

Briton 2500 Series Low Energy Operator



The Briton 2500 Series is designed specifically for use in areas where a conventional door closer could be inconvenient or would impede the flow of people in medium or high traffic applications such as a cinema foyer or hospital corridor. Its use is recommended in applications which are designed to satisfy the levels of accessibility called for in the Disability Discrimination Act and to meet the requirements of the revised Approved Document M of the Building Regulations 2004.



Briton 2500 Series

The Briton 2500 Series is a power assisted, low energy swing door operator that allows users total freedom from manual door operation. It is estimated that some 14 million people in the UK experience some form of mobility difficulty, whether they are permanently disabled, temporarily hampered by injury or pregnancy, pushchairs or luggage, or becoming frail through normal aging. Briton 2500 Series is designed to provide safe and easy access for all users and can be installed on new or existing internal and external doors.



Automatic operation can be achieved using motion detectors or activation pads/plates mounted adjacent to the door



Electromechanical opening system provides a smooth low noise operation which has exceptional reliability. Mechanical stop reduces wear and tear and protects the surrounding structure

Extruded aluminium cover has a satin anodised finish as standard

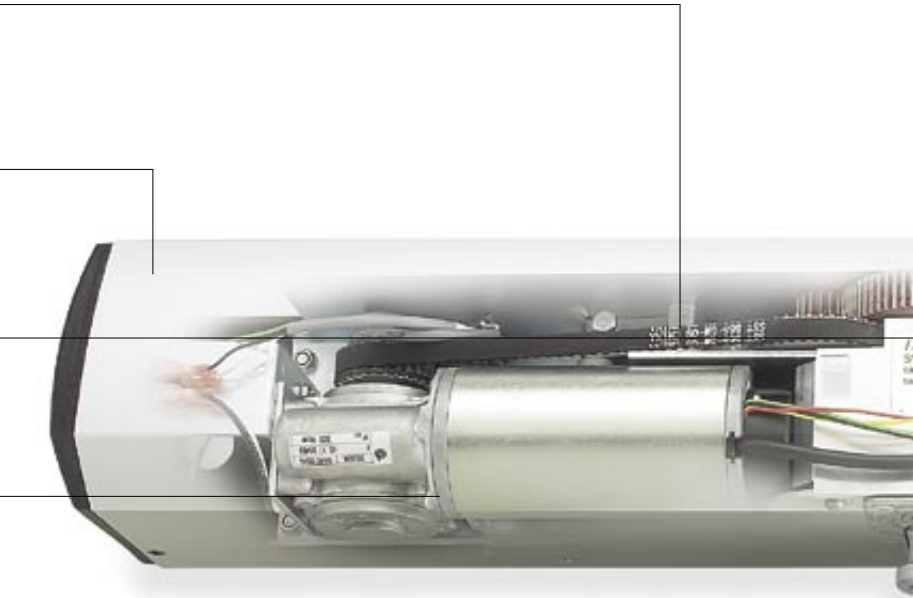
Built in transformer and additional ports ensure the unit is totally self contained and allow the system to incorporate sensors and integrated locking facilities (electric strikes or magnets)

Spring controlled closing action has adjustable closing power and is fail safe, closing the door in the event of a fire or on power failure

The unit can be used with slide track for mounting on the pull side of the door, or with projecting armset for mounting on the push side of the door

Microprocessor control makes the Briton 2500 Series easy to adjust and allows for future changes of function and unit set up. Also allows for additional hardware to be easily added.

Additional safety sensors can be installed on the door to prevent the door closing or opening onto a person in the operating arc (see Accessories on pages 8 & 9).



Briton 2500 Series



Mains power to the Briton 2500 Series operator can be fed either directly into the back of the unit in the case of metal frames, or into the end of the unit in the case of solid frames.

Connection to safety sensors mounted on the door is via surface loops which carry the cables from the door to the frame (as shown above), or from the door directly into the operator.

For details on the range of Briton 2500 Series accessories please refer to pages 8 & 9.



Briton 2500 Series Features & Functions

- Automatic operation mode via motion sensors, push pads/plates or access control for safe access into a building
- Push & Go allows simple operation without additional activation devices to meet the owner's need for an inexpensive solution
- Power Boost in the final closing phase ensures perfect latching to provide peace of mind that the door is secure
- Adjustable opening speed ensures a safe and flexible opening cycle to suit different applications
- Delayed action holding inhibits the closing cycle to allow slow moving traffic to pass through
- Safety stop halts the door when someone or something is in the opening or closing patch to reduce potential accidents

The operation of a door fitted with a Briton 2500 Series Low Energy Operator can be fine tuned with the addition of a number of optional accessories. The use of appropriate accessories can enhance the ease of operation, with push button or automatic sensor activation from one side or both, or a combination of automatic and manual operation. Additional sensors and finger guards can increase the safety aspects of the door.



Safety sensors

Surface mounted sensors can be installed on either side of the door. The sensor will stop the closing or opening cycle on detection of a person or object in the opening or closing arc of the door. Satin aluminium finish with black end caps.

2550.SS.340 - 340mm sensor kit

2550.SS.700 - 700mm sensor kit



Push Pads & Plates

A series of surface mounted satin stainless steel push pads and plates to operate the Briton 2500 Series unit from either side of the door. All push pads and plates supplied complete with black back box.

- 2550.PA.W - Push pad narrow style - with wheelchair logo
- 2550.PA.P - Push pad narrow style - plain
- 2550.PL.O - Push plate large - 'Push to Open'
- 2550.PL.W - Push plate large - with wheelchair logo
- 2550.PL.P - Push plate large - plain



Signage Kit

A selection of signs indicating door operation are available.

Briton 2500 Series Accessories

Finger Guard

An effective device to prevent trapped fingers in the hinge edge of a door. The device is surface applied to any conventionally hinged door.

700/SES - Finger Guard for 'push' side of the door

750/SES - Finger Guard for 'pull' side of the door



Motion Sensors

Ceiling or wall mounted sensors used to automatically activate the Briton 2500 Series unit.

2550.MS.B - Bi-directional sensor - Black

2550.MS.U - Uni-directional sensor (switchable) Black



Key Switches

To control the operation of the Briton 2500 Series unit, a key switch can be installed adjacent to the door.

2550.KS.3W - 3 position switch (AUTO/OFF/HO)

2550.KS.4W - 4 position switch (OFF/1way/2way/HO)

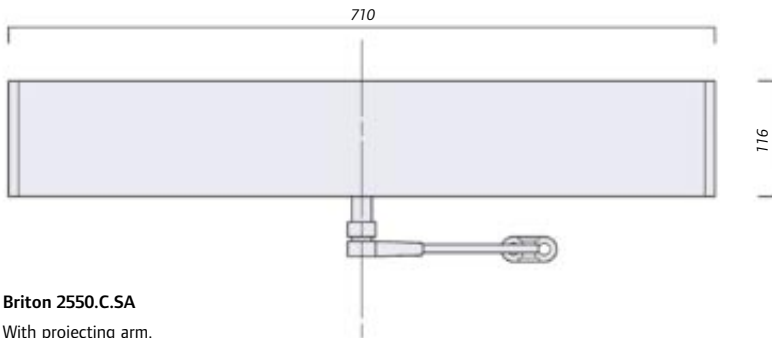
2550.KS.ME - Morning entry key switch (spring return)

Electric Strikes

In situations requiring additional security, an electric strike can be linked to the low energy unit. When used in conjunction with a form of electronic access control releasing of the strike and activation of the low energy operator are controlled by Card or PIN from outside.

Product Selector - Accessories

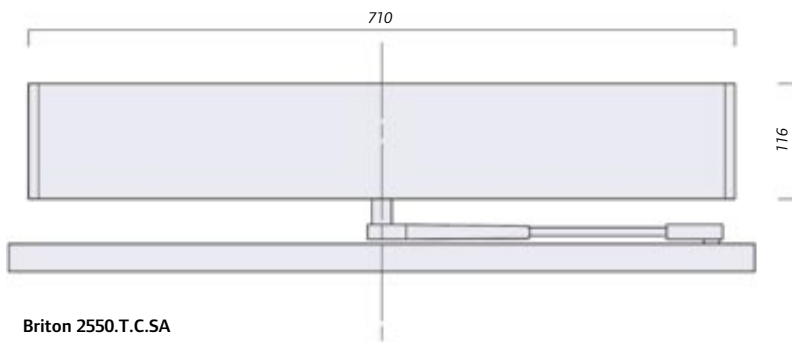
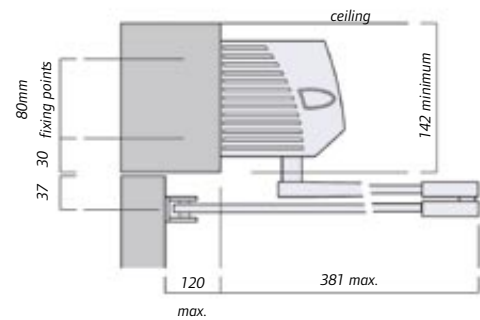
product ref:	description:	finish:
2550.KS.3W	key switch - 3 position - AUTO / OFF / HOLD OPEN	black
2550.KS.4W	key switch - 4 position - OFF / 1 WAY / 2 WAY / HOLD OPEN	black
2550.KS.ME	key switch - Morning Entry	black
2550.MS.B	motion sensor - bi-directional	black
2550.MS.U	motion sensor - uni-directional	black
2550.PA.P	push pad, 'narrow style' - plain	SS with black back box
2550.PA.W	push pad, 'narrow style' - with wheelchair logo	SS with black back box
2550.PL.O	push plate, large - with sign 'Push to Open'	SS with black back box
2550.PL.P	push plate, large - plain	SS with black back box
2550.PL.W	push plate, large - with wheelchair symbol	SS with black back box
2550.SS.340	safety sensor - 340mm	SA cover
2550.SS.700	safety sensor - 700mm	SA cover
700.SES	finger guard for push side of the door	-
750.SES	finger guard for pull side of the door	-



Briton 2550.C.SA

With projecting arm.

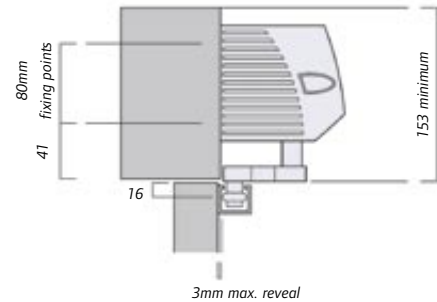
Unit is mounted on the head frame on the 'push' side of the door



Briton 2550.T.C.SA

With slide track arm.

Unit is mounted on the head frame on the 'pull' side of the door



Product Selector

product features	product references	
	2550.C	2550.T.C
Max. door width (mm)	1200mm	1200mm
Min. door width (mm)	660mm	760mm
Note: minimum door width of 850mm should be allowed for wheelchair use		
main features	2550.C	2550.T.C
Mounted on push side of door	●	
Mounted on pull side of door		●
Opening system	Electromechanical	Electromechanical
Closing system	Spring controlled	Spring controlled
Opening speed	Adjustable	Adjustable
Closing speed	Adjustable	Adjustable
Delayed action holding	Adjustable 1-60 sec.	Adjustable 1-60 sec.
Power requirements	230/250 volts*	230/250 volts*
Internal transformer to supply auxiliary hardware	24v AC/DC	24v AC/DC
Operation without power	●	●
Power supply absorbed	1A average	1A average
Force in opening cycle	40N max.	40N max.
Force in closing cycle	20N max.	20N max.
Operation cycle time with delayed action holding	5-60 seconds	5-60 seconds
Suitable for fire door applications	Up to 2 hrs on approved applications	Up to 2 hrs on approved applications

* see note on power requirements opposite

Power Requirements

For the operation of the Briton 2500 Series unit a 3 wire - 5 amp power supply must be connected to the side of the unit. The unit requires a 230/250v single phase 50/60Hz supply.

Note: The Briton 2500 Series must be fitted in accordance with BS 7036 and should be fitted by an authorised technician.

Briton 996 Electromagnetic Door Controls



The Briton 996 Series is ideal for use in areas where a conventional door closer could be inconvenient or hinder access. The use of electromagnetic 'hold-open' and 'swing-free' door control devices is specifically recommended in Approved Document M of the Building Regulations 2004.

In order to meet the requirements of The Disability Discrimination Act and the revision to The Building Regulations, Part M:2004 it is necessary to consider carefully the use of conventional door closers on entrance doors and other circulation doors within a building.

The Briton 996 Series is a range of fixed power closers with an integrated electromagnetic hold open mechanism. When connected to the building fire alarm or detection system each unit can be set to either 'hold-open' or 'swing-free' operation. In either case the power of the closer can be temporarily disabled to allow free passage. When de-activated the electromagnet disengages and the door closer closes the door in the normal manner to maintain fire safety.

Designed and fully compliant with EN 1154 and EN 1155 for electrically controlled closing devices (for further details see page 4)

Unit is supplied with armset and bracket for Fig.1 or Fig.61 and is self handed to reduce the number of stockholding units required. For Fig.66 please specify when ordering

'Catch plate' can be set to operate in hold open or swing free operation during installation to suit individual doorset requirements within a building

Pressure die cast aluminium body

Steel rack and pinion mechanism is heat treated for strength and durability

Separate latch action and closing speed adjustment provides total accuracy of adjustment of the full closing cycle



Briton badge of authenticity

Fabricated steel cover available in a range of architectural finishes which suite with the Briton 2000 and 2100 Series closers with Classic covers to complement a variety of door hardware ranges

Electromagnet is controlled by the building fire alarm/detector system and activates the 'catch plate' to ensure the door closes automatically in the event of a fire

Optional rear cable entry allows units to be installed with concealed cable using a separate concealed door loop to protect the closer against vandalism

Supplied with armoured power loop to run power safely from the door frame to the closer unit

Specification Helper

The Briton 'FSR' range of continuously rated, boxed power supplies will provide transformation/ rectification of the mains supply for use with the Briton 996 Series.

It is suggested that all electromagnetic hold open door closers be fitted with a release button close to the door frame so that the door can be released without having to manually pull the door away from the hold open mechanism.

Angle of hold open

Angle of hold open is adjustable from approximately 85° to 95°, and from 103° to 110° when fitted on the standard pull side of the door, from 85° to 95° when fitted to the transom, and from 65° to 85° and 90° to 105° when fitted on the push side of the door.

Briton 996 Series



mechanical



electrical

Each of the door controls in the Briton 996 Series is a fixed power size and is designed for mounting either to the pull side of the door in Fig.1 applications, or to the push side of the door in Fig.61 or Fig.66 applications (as illustrated below). In each case the size of closer specified should be carefully selected to suit the dimensions and weight of the door concerned (see chart on page 14).



When the Briton 996 is transom mounted (Fig.61 below) the external loop is not required, as the power supply can be linked directly to the unit through the frame. This not only creates a more visually appealing arrangement but by eliminating the surface loop reduces the risk of damage to the unit from vandalism.



Power requirements

For the operation of the closer the power requirements are 24V DC, 90mA nominal. Transformers and relay interfaced to the fire alarm system can also be supplied to link the electricity supply and the fire alarm system (see chart below).

FSR Transformer/Rectifier

For use with fire/smoke check electromagnetic door control units where 24V DC is not available for the continuous rating required. A socket is provided to accept a plug-in relay.

Product ref:	max. no of units
FSR4B	3
FSR20B	15
FSR50B	38
Output - full wave rectified & unsmoothed (100% ripple)	
FSR4C	4
FSR10C	10
FSR22C	22
Output - full wave rectified & fully smoothed	

Product Selector

product features		product references					
closer size	max. door size width - weight	9963/01	9963/66	9964/01	9964/66	9965/01	9965/66
1	750mm - 20kg						
2	850mm - 40kg						
3	950mm - 60kg	●	●				
4	1100mm - 80kg			●	●		
5	1250mm - 100kg					●	●
6	1400mm - 120kg						
main features		9963/01	9963/66	9964/01	9964/66	9965/01	9965/66
CE marked		●	●	●	●	●	●
Mounting options		fig.1 & 61	fig.66	fig.1 & 61	fig.66	fig.1 & 61	fig.66
Angle of opening/controlled closing		110°	110°	110°	110°	110°	110°
Separate latch action/closing speed		●	●	●	●	●	●
Adjustable backcheck		●	●	●	●	●	●
In-built temperature compensation		●	●	●	●	●	●
Electromagnetic hold-open		●	●	●	●	●	●
Electromagnetic swing-free		●	●	●	●	●	●
Hold-open angle adjustment (closers mounted in fig.1 and fig.66 applications have alternative hold open positions)		fig.1 & fig.61 85° - 95° fig.1 103° - 110°	fig.66 65° - 85° 90° - 105°	fig.1 & fig.61 85° - 95° fig.1 103° - 110°	fig.66 65° - 85° 90° - 105°	fig.1 & fig.61 85° - 95° fig.1 103° - 110°	fig.66 65° - 85° 90° - 105°
Non handed, for LH or RH applications		●	●	●	●	●	●

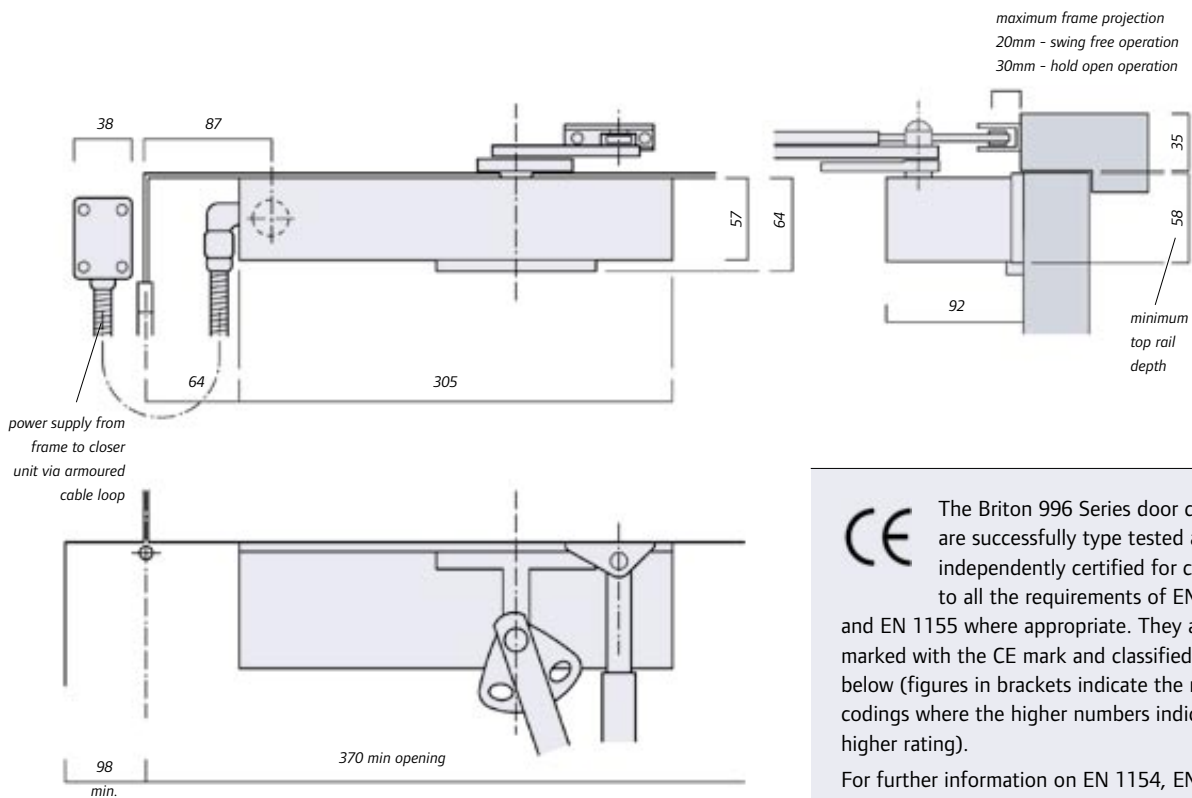


Fig.1 Application

CE The Briton 996 Series door closers are successfully type tested and independently certified for conformity to all the requirements of EN 1154 and EN 1155 where appropriate. They are marked with the CE mark and classified as shown below (figures in brackets indicate the range of codings where the higher numbers indicate a higher rating).

For further information on EN 1154, EN 1155 and CE please see page 4.

	EN 1155 classifications range shown in brackets					
	(3)	(5-8)	(3-7)	(1)	(1)	(0/4)
Briton 9963	3	8	3	1	1	3
Briton 9964	3	8	4	1	1	3
Briton 9965	3	8	5	1	1	3

Briton 2130B.TE Electromagnetic Door Control

The Briton 2130B.TE Electromagnetic hold-open door closer is part of an integrated system of door control devices which has been developed to produce a comprehensive package of solutions to any door closing application.

The Briton 2130B.TE closer has built on the engineering excellence of the Briton 2100 Series to incorporate one of the simplest, quickest and most accurate installation systems available.

This combination of engineering quality and good looks with three body cover options and over 20 finishes creates a truly versatile architectural solution for any 'Extra Heavy Duty' application.



Specification cover (SC) in polished brass

At the heart of all Briton 2100 Series closers is a high precision 'engine' which has undergone extensive development and testing to ensure it functions efficiently and effectively for extended periods of time. The combination of superior engineered quality and practical ingenuity ensures you have a product which not only looks good and performs well beyond the requirements of the latest European standards but offers significant cost benefits over its competitors.

The **Briton 2130B.TE** is a variation of the 2130B.T and has an electromagnet in the slide track. It is designed to hold the door open during normal use and is connected to the building fire alarm or smoke detection system. On sounding the fire alarm, or in the event of power failure, the electromagnet is deactivated and the door closes in the normal controlled manner.

As an integrated unit the **Briton 2130B.TE** offers many benefits over a standard mechanical door control used with a separate electromagnetic holding unit. Installation time and overall costs are reduced, it is less susceptible to accidental or malicious damage and it also ensures the door is free from the twisting forces which can render a fire door invalid if a closer and separate electromagnet are poorly installed. Avoiding the need for intrusive, ugly bracketry associated with separate electromagnets, especially where there is no reveal wall, also makes the integrated unit visually more attractive.

Designed to and fully compliant with EN 1154 and EN 1155, the most recent legislation for performance, reliability and safety. (See page 4 for more information)



CF111



mechanical



electrical

Track mounted 24V solenoid with an effective and reliable holding force to hold doors open when required. Hold open angle is fully adjustable from 85° to 110°.

Fail safe electronics guarantee door release in the event of a fire or power failure, whilst manual override allows the door to be pulled closed at any time

On-board fire test switch simulates fire condition enabling the closer to be checked on a regular basis to maintain the safety of the building

Cast iron body for rugged durability

Hardened steel rack and pinion mechanism with needle roller bearings for exceptionally smooth and efficient operation and high levels of durability

Coil springs manufactured in silicon chrome alloy steel for superior strength and reliability

High quality hydraulic fluid with in-built temperature compensation ensuring reliable operation in temperatures from -15°C to +40°C

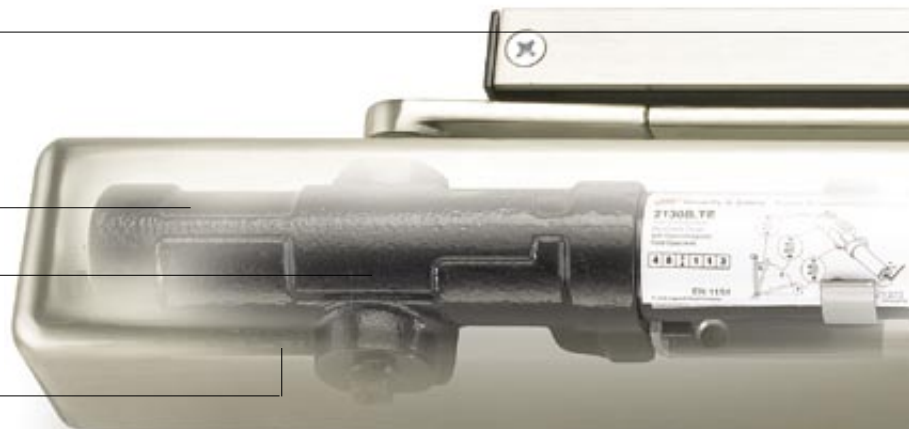
All over cover conceals all fixings and adjustment screws to prevent unauthorised tampering. Choice of 3 cover options including Classic fabricated cover, L and S zinc die cast covers available in a range of architectural finishes with matching track. Optional anti-tamper security screws available

Separate latch action and closing speed adjustment provides total control of the full closing cycle

Adjustable backcheck minimises the risk of personal injury and damage to adjacent walls, door, frame and other door hardware

Adjustable closing strength avoids the need to predetermine the door details at the point of specification and allows for site variations

Unique Accufit backplate system which reduces installation time and dramatically improves accuracy of fitting



Briton 2130B.TE

Accufit by name Accufit by nature

The cost associated with inaccurate fixing of a door closer can be of significant proportions, particularly when it has a 'knock-on' effect on the other hardware on the door, the door itself and the surrounding structure.

At Ingersoll Rand Security Technologies we discovered that 95% of all problems associated with door closers were due to incorrect installation rather than a fault in the closer itself.

The Accufit system is designed to address this deficiency and provides real term benefits far beyond the simple savings in installation time.

The life of the product is greatly enhanced by being fitted accurately and has a beneficial effect on the operation of the door as a whole.



Right, the Briton 2110 projecting arm closer with "L" cover in polished stainless steel, and with "S" cover in satin stainless steel.

Left, the Briton 2000 and Briton 2100 Series is available in a wide range of metallic and powder coated finishes (see page 21).



The Briton 2130B.TE forms an integral part of the Briton 2100 Series. When specified with 'S' or 'L' cover, it can be suited with any projecting or track arm closer from the Briton 2100 Series, or with 'C' cover it can be suited with closers from the Briton 2000 Series.

Although the 2130B.TE integrated door closer is preferred, standard door closers suitable for a fire door may be used in conjunction with a separate wall or floor mounted electromagnetic holder to provide a hold open function (see page 19).

Product Selector

product features		ref:
closer size	max. door size width - weight	2130B.TE
1	750mm - 20kg	
2	850mm - 40kg	
3	950mm - 60kg	●
4	1100mm - 80kg	●
5	1250mm - 100kg	
6	1400mm - 120kg	
main features		2130B.TE
Self adhesive low-tac template		●
Mounting backplate		●
Fixed strength or adjustable		adj.
Power adjustment method		wind thru
Angle of opening/controlled closing		110°
Separate latch action/closing speed		●
Adjustable backcheck		●
In-built temperature compensation		●
Electromagnetic hold open		●
Non projecting slide track arm set		●
Matching track and/or arm finish		●
Non handed, for LH or RH applications		●
Cover options (Classic, S and L)		C/S/L

Power requirements

Closer operation power requirements are 24V DC, 90mA nominal. Transformers and relay interfaced to the fire alarm system can also be supplied to link the electricity supply and fire alarm system (see chart).

FSR Transformer/Rectifier

For use with fire/smoke check electromag. door control units where 24V DC is not available for the continuous rating required. A socket is provided to accept plug-in relay.

Product ref:	max. no of units
FSR4B	3
FSR20B	15
FSR50B	38
Output - full wave rectified & unsmoothed (100% ripple)	
FSR4C	4
FSR10C	10
FSR22C	22
Output - full wave rectified & fully smoothed	



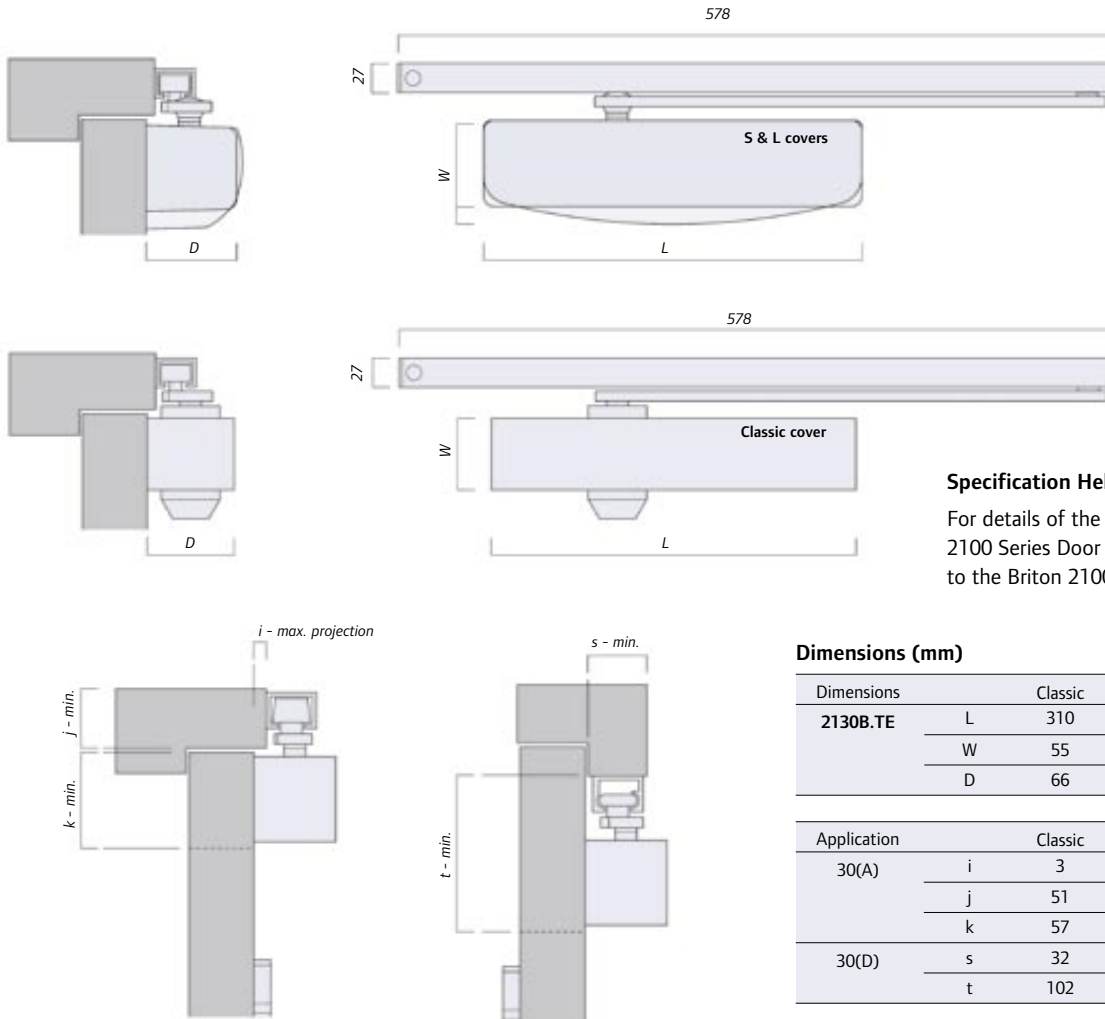
Briton 2100 Series door closers are successfully type tested and independently certified for conformity to all the requirements of EN 1154 and EN 1155 where appropriate. They are marked with the CE mark and coded as shown below (the figures in brackets indicate the range of codings where the higher numbers indicate a higher rating).

2130B.TE

EN 1155 classifications range shown in brackets (3) (5-8) (3-7) (1) (1) (0-4)

3 8 3-4 1 1 3

For further information on EN 1154, EN 1155 and CE please see page 4.



Specification Helper

For details of the complete Briton 2100 Series Door Closer please refer to the Briton 2100 product brochure.

Dimensions (mm)

Dimensions	Classic	L	S	
2130B.TE	L	310	318	318
	W	55	74	76
	D	66	62	71
Application	Classic	L	S	
30(A)	i	3	3	3
	j	51	51	51
	k	57	78	78
30(D)	s	32	32	32
	t	102	127	127

Application 30 (A)

closer fixed to 'pull' side of door

Application 30 (D)

closer mounted on 'push' side of door

Briton Electromagnetic Door Holders

Electromagnetic hold open units

When used in conjunction with a suitable door closing device, fire alarm and detection system, the Briton electromagnetic hold open devices permit fire doors to be held open during normal operation. In the event of a fire or smoke detection the units are automatically de-activated and the doors will be closed under the normal action of the door closer.

The Briton range of electromagnetic door holders is available in two distinct types; the Briton 533 Commercial Series of steel units with architectural finishes and the Briton 503 Contract Series of white plastic units.

Designed to, and fully compliant with EN 1155 and CE marked for electromagnetic hold open devices

Satisfies the requirements of Appendix B, Approved Document B of the Building Regulations

Can be used to aid accessibility in medium to high traffic areas, particularly as a cost-effective alternative in retrofit applications

Built in release/test button to simulate alarm activation in order to check operation on a regular basis

Robust steel body with optional back boxes for flush or surface mounting

Strong electromagnet will hold a door open against even the strongest overhead door closer or floor spring. Maximum holding force 200 Newtons

Armature plate with steel mounting plate is fixed to the door

Special steel mounting bracket allows the device to be mounted on the floor. This allows the unit to be mounted in the most appropriate position for use with a floor spring (see information on positioning below)



Positioning

The Briton electromagnetic hold open device is suitable for use with overhead door closers and floor springs. To avoid inflicting twisting forces on the door leaf it is recommended that the electromagnetic device is fitted in the same horizontal plane as the closing device (or as close as is practical). Failure to do so can result in the door leaf twisting which can prevent the door from closing properly in an emergency.



The Briton 533 and 503 Series of Electromagnetic Door Holders are successfully type tested and independently certified for conformity to all the requirements of EN 1155 where appropriate. They are CE marked and coded as shown below (the figures in brackets indicate the range of codings where the higher numbers indicate a higher rating).

For further information on EN 1155 and CE please see page 4.

EN 1155 classifications range shown in brackets
(3) (5-8) (3-7) (1) (1) (0-4)

Briton 533 & 503 **3** **5** **3-6** **1** **1** **3**

Product Selector

item no.	description	finishes
533.xx	Commercial wall magnet with backbox for flush mounting	SE, SS, PCP
533C.xx	Wall mounted cover for use with 533.xx for surface mounting	SE, SS, PCP
533.FMB.xx	Floor mounting bracket for use with 533.xx	SE, SS, PCP
503.WH	Contract wall magnet with back box for surface mounting	WH
533.FMB.WH	Floor mounting bracket for use with 503.WH	WH

Power supply

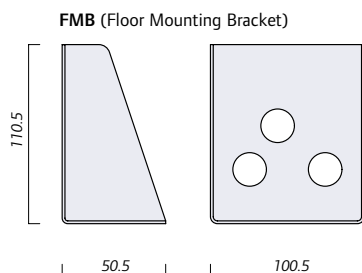
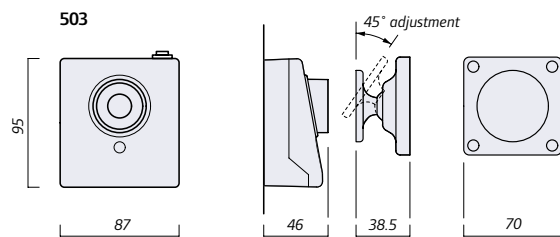
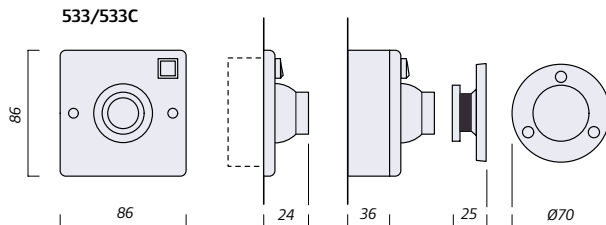
Power for ancillary devices must not be drawn from the fire alarm system except under alarm conditions. A range of power supply units is available which are designed specifically to control one or more electromagnetic hold open device.

For the operation of the hold open unit the power requirements are 24V DC, 50mA nominal. Transformers and relay interfaced to the fire alarm system can also be supplied to link the electricity supply and the fire alarm system (see chart).

FSR Transformer/Rectifier

For use with fire/smoke check electromagnetic door control units where 24V DC is not available for the continuous rating required. A socket is provided to accept a plug-in relay.

Product ref:	max. no of units
FSR4B	4
FSR20B	20
FSR50B	50
Output - full wave rectified & unsmoothed (100% ripple)	
FSR4C	5
FSR10C	15
FSR22C	32
Output - full wave rectified & fully smoothed	



Briton Finishes

The Briton 2100 Series, Briton 996 Series and Briton 2500 Series are available in a wide selection of metallic and coloured finishes which fall into 3 categories

- Metallic finishes
- Solid metal polished finishes
- Powder coated coloured finishes

The powder coated colours are specially formulated to provide a close match to the coloured solid nylon finishes of our Normbau range of door hardware.

Please note:

Briton 2100 Series closers are supplied with arms and track in a matching finish to the closer body.





















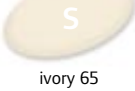

Briton 996 Series closers are supplied as standard with black arms and brackets.

Briton 2500 Series is supplied as standard with SA cover with SE arms/track.

'S' after the finish code denotes matching arms.

e.g. SES - Silver with matching arms

SE - Silver with black arms

metallic finishes			
			
satin stainless steel (SS)	polished stainless steel (PS)	polished aluminium (ESA)	
			
satin brass (SB)	polished brass (PB)		
anodised aluminium finishes			
			
satin aluminium (SA)	polished aluminium (PA)		
sprayed metallic finishes			
			
sprayed silver (SE)	sprayed gold (GE)	sprayed brown (BE)	
coloured finishes to match Normbau colours			
			
white 19 NWH RAL-DS 000 95 00	manhattan 67 NMG RAL-DS 080 70 05	dark grey 18 NDG RAL-DS 000 35 00	black 16 NBL RAL-DS 000 15 00
			
yellow 22 NYE RAL-DS 080 80 90	green 13 NGR RAL-DS 160 30 38	red 12 NRE RAL-DS 030 30 45	
			
slate blue 63 NSB RAL-DS 240 50 15	dark blue 37 NDB RAL-DS 270 20 25		
			S - Special Colours may be subject to a longer delivery time
dark red 35 NDR RAL-DS 010 20 25	ivory 65 NIV RAL-DS 090 85 10	blue 11 NBU RAL-DS 270 30 40	

finishes	2500	996	2130B.TE
metallic	-	all metallic finishes	all metallic finishes
anodised al.	SA	-	-
sprayed metallic	-	all sprayed finishes	all sprayed finishes
coloured	-	check availability	all colours

Note: Due to the limitations of the printing process please check your choice of finish against actual product.



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