TDI
Electronic Time Delay Isolator



The TDI electronic time delay isolator is a heavy duty trapped key interlock switch controlled by a fail-safe timer and solenoid. The TDI unit is designed to control access to hazardous machines with run down times and can be used in high risk applications. It incorporates a dual channel fail-safe timer, a heavy duty continuously rated solenoid, solenoid position monitoring, a 20A isolation switch, a front panel lamp indication of solenoid position and a timer failure with one or more lock portions for multiple access applications.

OPERATION

The Castell TDI electronic time delay isolator is typically used for machine isolation in applications in order to protect the hazardous area from access while power is on.

TDI electronic time delay isolator, double key condition

1

Power is on, keys are trapped.



While the power is on, all keys are trapped in the TDI unit.

2

Turn the knob to OFF position, switching the power off. Once the timer is complete, the green LED illuminates. Release the keys by pushing the green button.



Turn the switch to OFF position to switch the power off. The TDI timer starts running. Once complete, the green LED illuminates. All keys can now be released by pushing the green button. The keys can be taken to unlock the access locks, which protect the motor or machine area.

3

Keys are released, power is off.



The power is off until all keys are replaced in the TDI electronic timer and the power knob turned back to the ON position.

The TDI is available with different solenoid voltages as 24 VDC and 240 VAC, 110 VAC (see order information on page 7 for more details). Other voltages are available upon request.

The TDI comes with 6 contacts as standard with contacts arrangements as 3NO/3NC, but auxiliary set of contacts are available on request.

While every effort has been made to ensure the accuracy of the information provided, no liability can be taken for any errors or omission.
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USAGE

The TDI electronic time delay isolator is designed to be part of a safety system and is used to switch off the power once the pre-set time (set longer than the run-down time of the machine) has elapsed before releasing a key or a set of keys. This key is then used to gain access to a hazardous area via an access interlock such as the AI.

The TDI electronic time delay isolator is not designed for security purposes.

INSTALLATION

The TDI electronic time delay isolator should be mounted to a surface using suitable fasteners (please refer to drawings on page 4 and 5 for more details). The back of board mounted version should be sealed to the panel for ingress protection.

Cables should be connected to the switch in accordance with the applicable wiring diagrams. Ensure that the unit is bonded for earth continuity (please refer to drawing on page 6 for more installation details).

IMPORTANT: The interlock should be mounted using anti-tamper fasteners to prevent unauthorised removal.

The TDI range of electronic timer with power isolations must be installed by a competent and qualified person who has read and understood these instructions. Please retain this document in your technical file.

The manufacturer should be consulted when use in a corrosive environment is planned.

MAINTENANCE

Periodic visual checks should be carried out by the site manager / safety officer.

Do not lubricate lock barrel with oil or grease, use CK dry powder graphite if necessary.

The interlock must be inspected every 6 months. Safety checks should include ensuring the keys can only be removed in the correct safety operating conditions (see page 1).

In case of defects being detected please contact your nearest Castell Support Department for further actions. Please see Contact section for contact details.

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TECHNICAL DATA

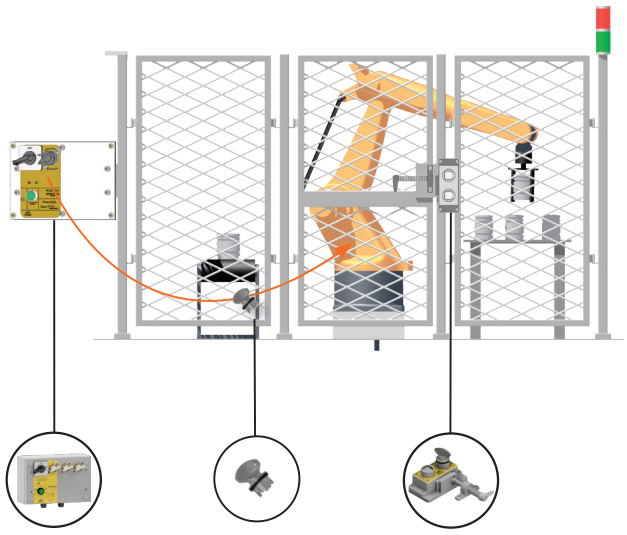
	TDI Electronic Time Delay Isolator
Temperature rating	Minimum: -5°C [23°F]
	Maximum: 55°C [131°F]
Type of mounting	Surface and panel mount using suitable fasteners (please refer to drawing on page 4 for more details)
Weight	5 kg
Material	Brass or Stainless steel lock portions, powder coated mild steel or Stainless steel enclosure
Cable size	M20 Gland x 2
IP rating	IP65, NEMA 4 enclosure
Voltage	24 VDC and 240 VAC, 110 VAC
B10d	1,000,000
Shock & vibration	In accordance with BS EN 50155 & IEC 61373
Motor rating	400 MA to 20 AMP at nominal 690 V 3x380-440 V AC 23A 7.5 KW or AC3 5.5 KW

APPLICATION

The TDI safety component is designed to operate as part of an integrated safety system, controlling access to hazardous areas to motor driven, high risk applications where a certain rundown time is required before access is granted.

When the machine is running, the key of the TDI interlock cannot be removed, preventing access to the hazardous area. To gain access to the machine area, the electrical supply must be switched off by turning the switch to OFF position. When the machine stop sequence is initiated, a signal from the machine control circuits starts the internal timer. After a pre-set time (which must exceed the machine run down time), the timer energizes the solenoid illuminating the green LED. By pushing the green button the key can be released from the TDI unit. This key is taken by the personnel to the AIE access interlock.

The machine cannot be restarted until the door is locked closed and the key is returned to the TDI electronic timer.



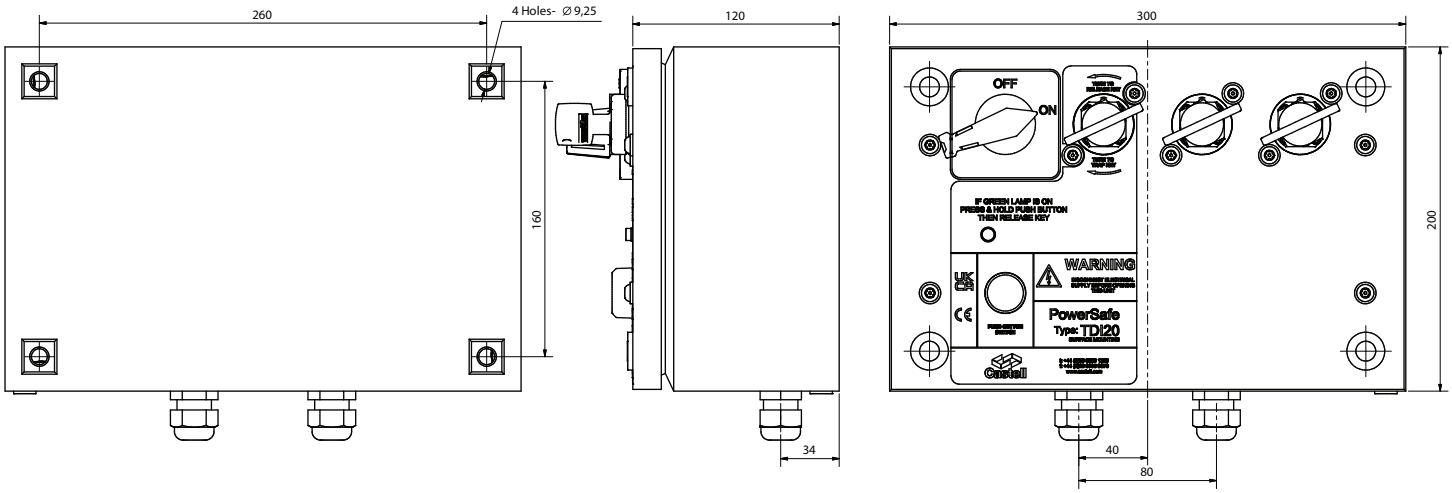
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DRAWING

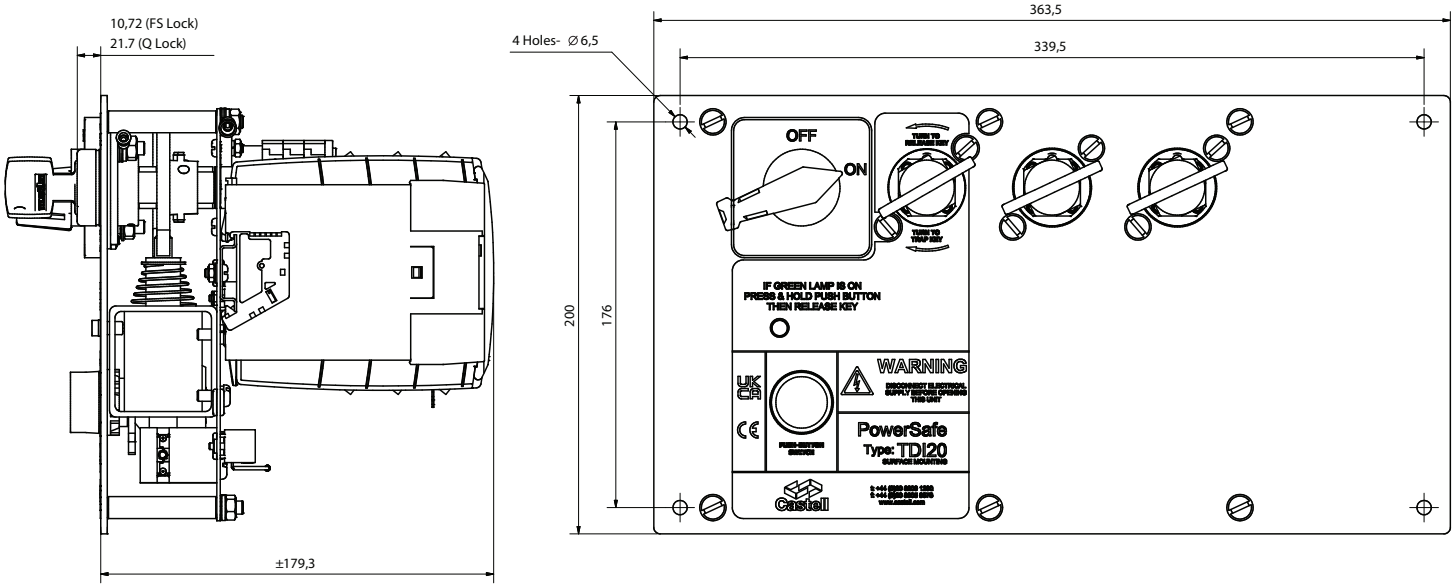
Dimensions: in mm

Note: For safe mounting, use security screws

TDI20 - FOB (1 Knob + 3 Secondary lock portions)



TDI20 - BOB (1 Knob + 3 Secondary lock portions)



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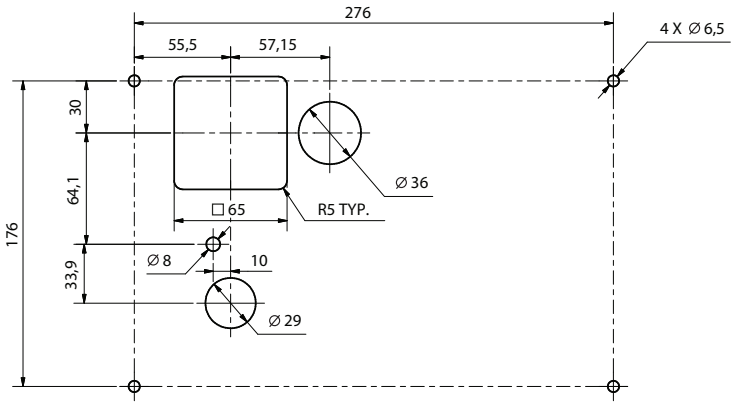
DRAWING

Dimensions: in mm

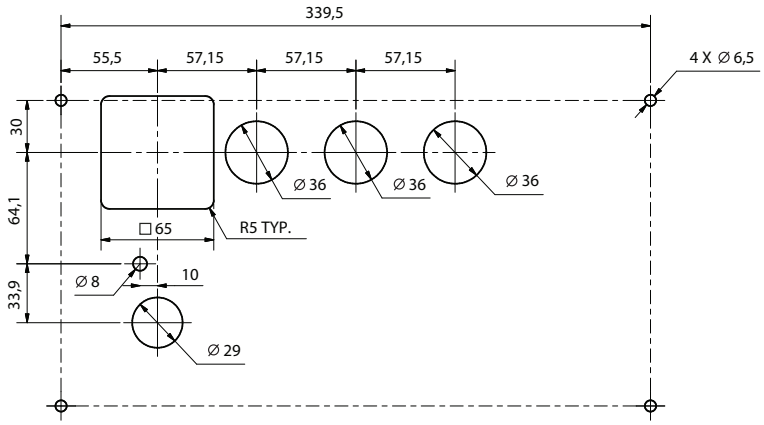
Note: For safe mounting, use security screws

Panel cut out details for BOB

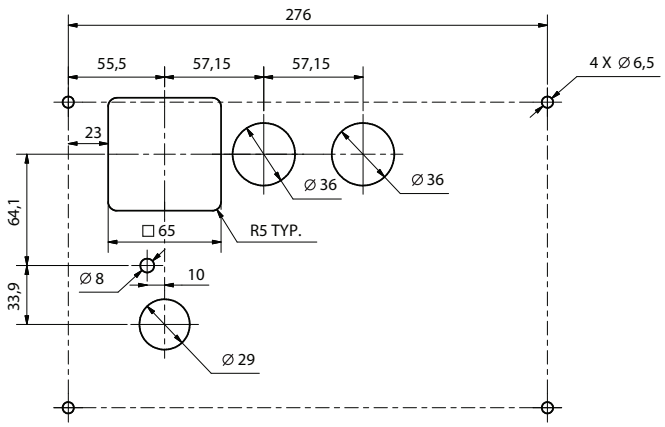
TDI - 2 (1 KNOB + 1 LOCK)



TDI - 4 (1 KNOB + 3 LOCK)



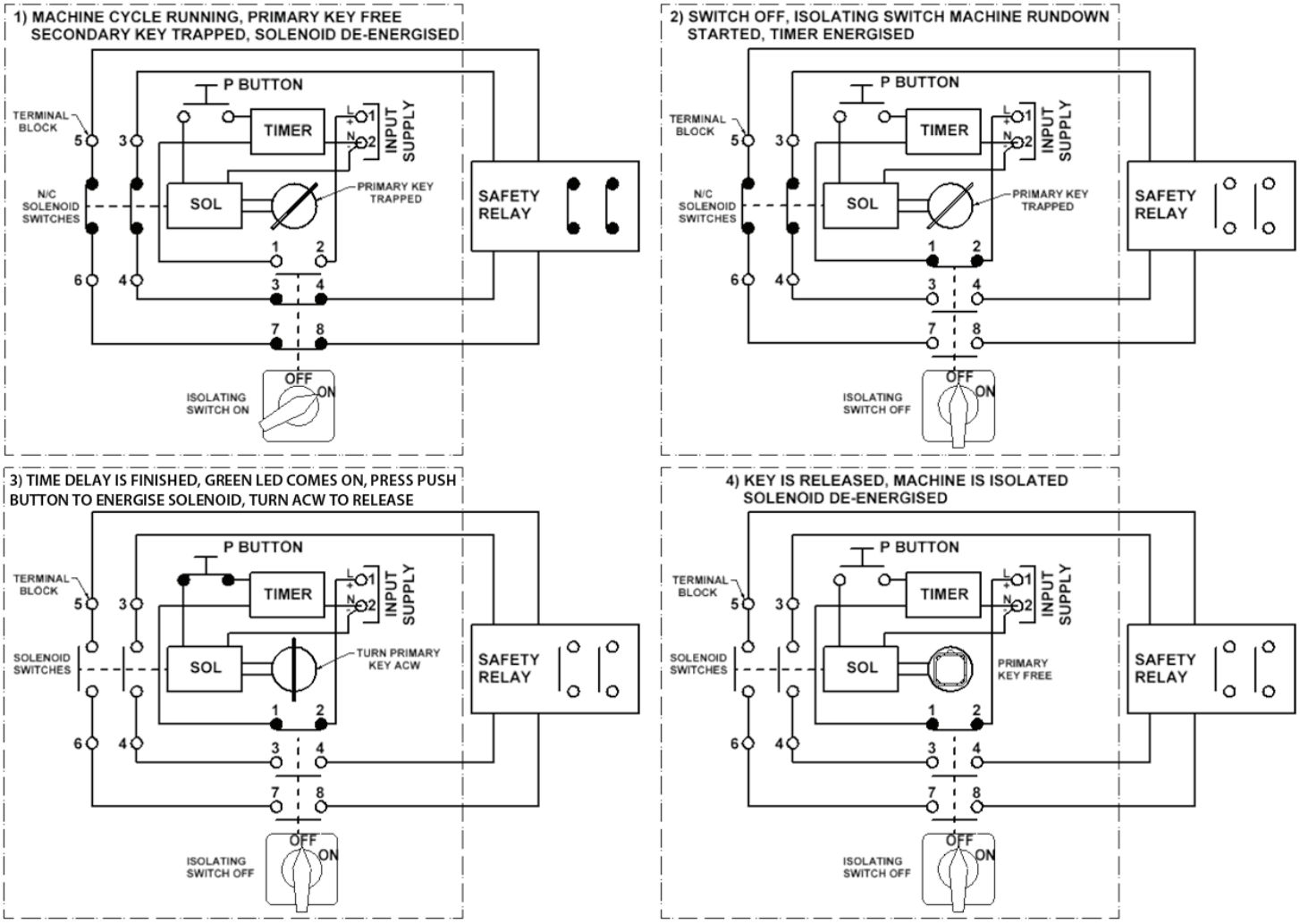
TDI - 3 (1 KNOB + 2 LOCK)



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WIRING DIAGRAM

TDI



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ORDER INFORMATION

	Component type	1	2	3	4	5	6	7	8	9	10
Part number	TDI	-		-		-		-			
Example	TDI	- FS	B	- F	- 1	D	- 110	A	1	A1	B1

1	**Lock portion type**	FS [1] / Q [1]
2	**Material**	B = Brass / S = Stainless steel
3	**Mounting**	P = Panel mount (BOB- back of board) / F = Front of board, (FOB- mild steel enclosure) / SF = Stainless steel enclosure (not available with brass locks)
4	**Secondary lock portion(s)**	1 / 2 / 3 (more secondary lock portions available upon request)
5	**Key condition**	D = Double key condition (sequential removal of all keys) E = Exchange key condition (available upon request)
6	**Solenoid voltage**	110 / 24 / 240, standard
7	**Current**	VAC = A (110, 240) / VDC = D (24)
8	**Time Delay**	1 (300 min. timer), 2 (300 sec. timer)
9	**Lock portion symbol:** Primary key (located next to switch)	FS [1] up to 3 characters / Q [1] up to 6 characters
10	**Lock portion symbol(s):** Secondary key(s)	FS [1] up to 3 characters / Q [1] up to 6 characters

Note: Specify time delay for the unit

(1)

FS - Lock type	**Q - Lock type**
Up to 3 characters	Up to 6 characters
	

Special construction available upon enquiry

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Tel: +44 (0)20 8200 1200 **Email:** sales@castell.com

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