TDR
Time Delay Remote Unit with Electrical Isolation



The TDR time delay remote unit is a heavy duty trapped key interlock switch controlled by a fail-safe timer and solenoid. The unit is designed to control access to hazardous machines with run down times and can be used in high risk applications. The unit incorporates a dual channel fail-safe timer, heavy duty solenoid, solenoid position monitoring, 20A electrical switch, front panel lamp indication of solenoid position and timer failure with up to four lock centers for multiple access applications.

OPERATION

The Castell TDR time delay remote unit with electrical isolation is typically used for machine isolation in applications in order to protect the hazardous area from access while power is on.

TDR electronic time delay remote unit with electrical isolation, double key condition

1

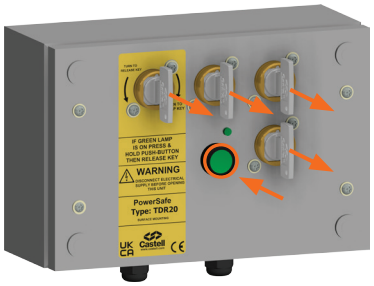
All keys are trapped. No signal to the TDR unit.



The keys are trapped in the TDR. Switch contacts arrangement: 3 normally open and 3 normally closed.

2

Continuous voltage signal initiates timer. After time delay, release the keys by pushing the green button.



When the machine stop sequence is initiated, a signal from the machine control circuits starts the timer in the TDR unit. Once completed, the timer energizes the solenoid illuminating the green LED. By pushing the green button the keys can be released. These keys are taken by the operator to the machine area.

3

All keys are free.



The machine cannot be restarted until all keys are replaced and trapped in the TDR time delay remote unit.

The TDR is available in various solenoid voltages: 24, 110, 240 VDC and 110, 240 VAC (see order information on page 8 for more details). Other voltages are available upon request.

The TDR 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.
Sentric Safety Group reserves the right to alter specifications and introduce improvements without prior notice.

U-TDR-001-E Issue 9 (10-26)

USAGE

The TDR time delay remote unit with electrical isolation is designed to be part of a safety system and is used to switch off the power. The TDR waits for a signal from the machine which starts the time delay countdown, before releasing a key, which is then used to gain access to a hazardous area via an access interlock such as the AI, AIE.

The TDR time delay remote unit with electrical isolation is not designed for security purposes.

No hazardous substances were used in the manufacture of this product.

INSTALLATION

The TDR time delay remote unit with electrical isolation should be mounted to a surface using suitable fasteners (please refer to drawing on pages 4-6 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 7 for more details).

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

The TDR range of electronic timer with electrical 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.

While every effort has been made to ensure the accuracy of the information provided, no liability can be taken for any errors or omission.
Sentric Safety Group reserves the right to alter specifications and introduce improvements without prior notice.

TDR
Time Delay Remote Unit with Electrical Isolation

TECHNICAL DATA

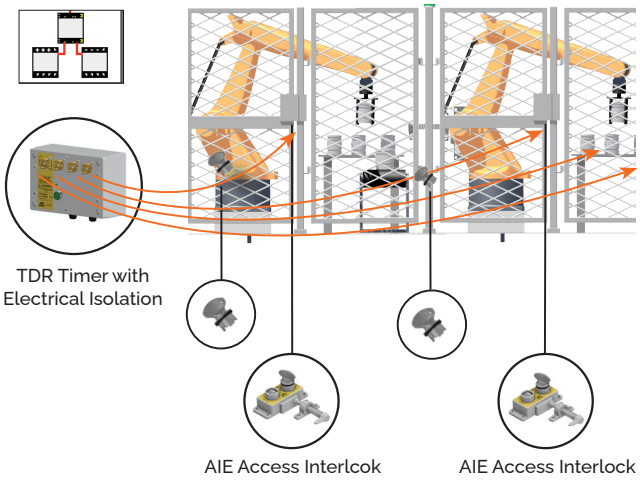
	TDR Time Delay Remote Unit with Electrical Isolation
Temperature rating	Minimum: -5°C [23°F]
	Maximum: 55°C [131°F]
Type of mounting	Surafce and Panel mount using suitable fasteners (please refer to drawing on page 4-6 for more details)
Weight	5 kg
Material	Brass or Stainless steel lock portions, powder coated mild steel or stainless steel enclosure
Cable size	M20 Gland x 2
Voltage	24 VDC and 240 VAC, 110 VAC
Motor ratings	400 MA to 20 AMP at nominal 690 V 3x380-440 V AC 23A 7.5 KW or AC3 5.5 KW

APPLICATION

The TDR 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 time rundown is required before access is granted.

While machine is running, the keys are trapped in the TDR interlock, preventing access to the machine area. To gain access to the area, the electrical supply must be switched off via the machine control panel. 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 keys can be released. These keys are taken by the personnel to the AIE access interlocks on the doors.

The machine cannot be restarted until all doors are locked closed and all keys returned to the TDR electronic timer.



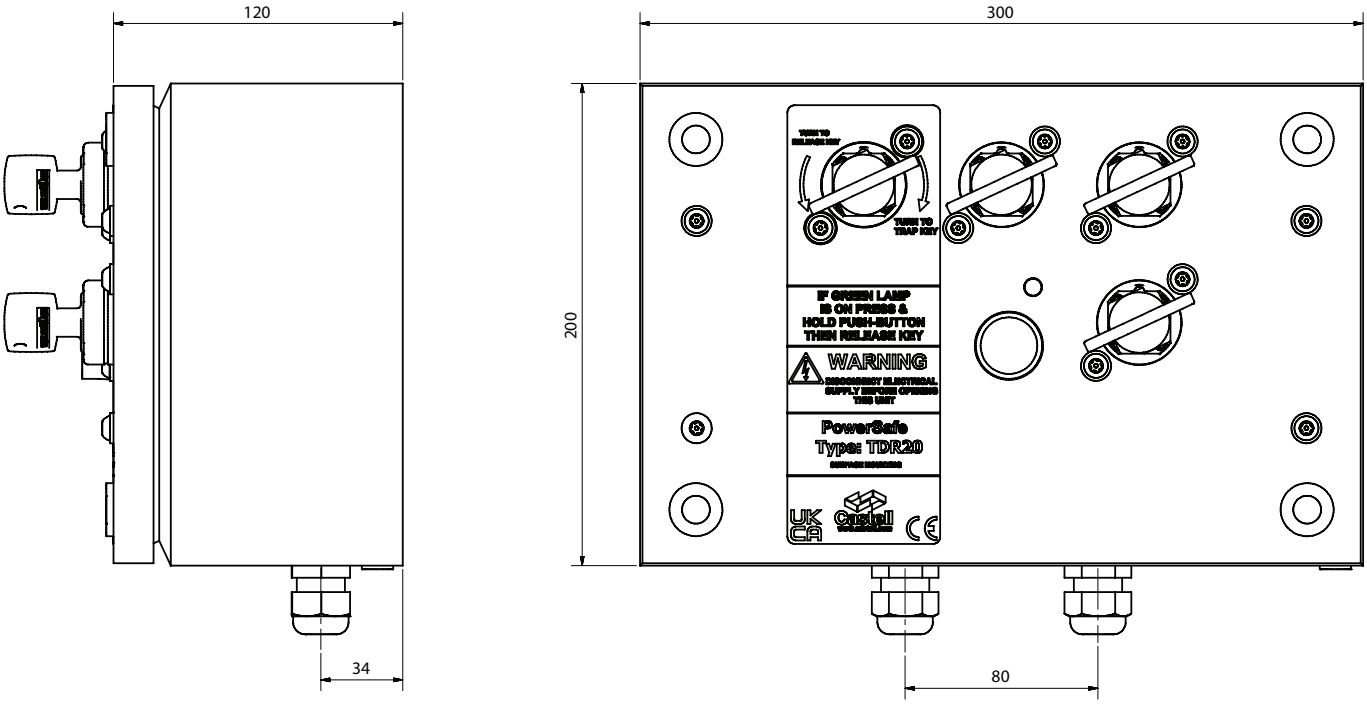
While every effort has been made to ensure the accuracy of the information provided, no liability can be taken for any errors or omission.
Sentric Safety Group reserves the right to alter specifications and introduce improvements without prior notice.

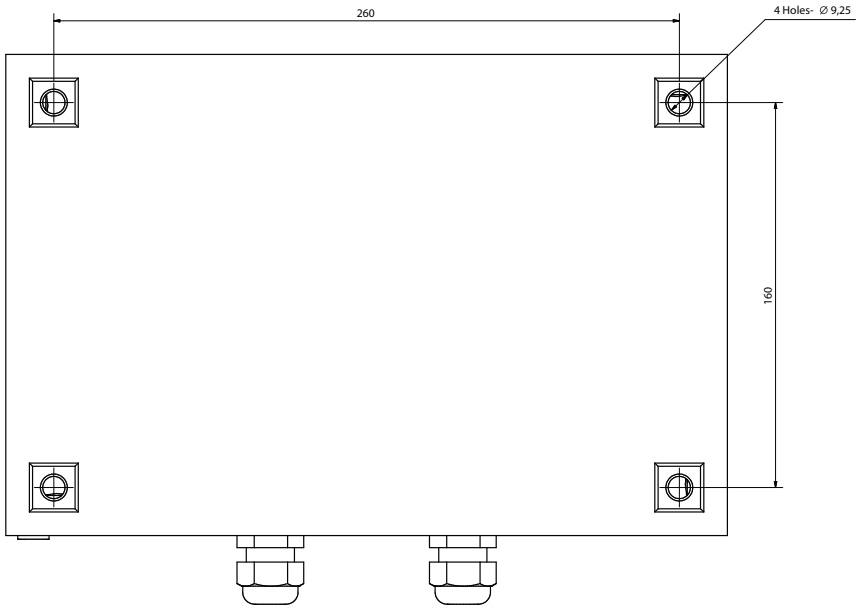
DRAWING

Dimensions: in mm

Note: For safe mounting, use security screws

TDR, surface mount/enclosure version (FOB = front of board)





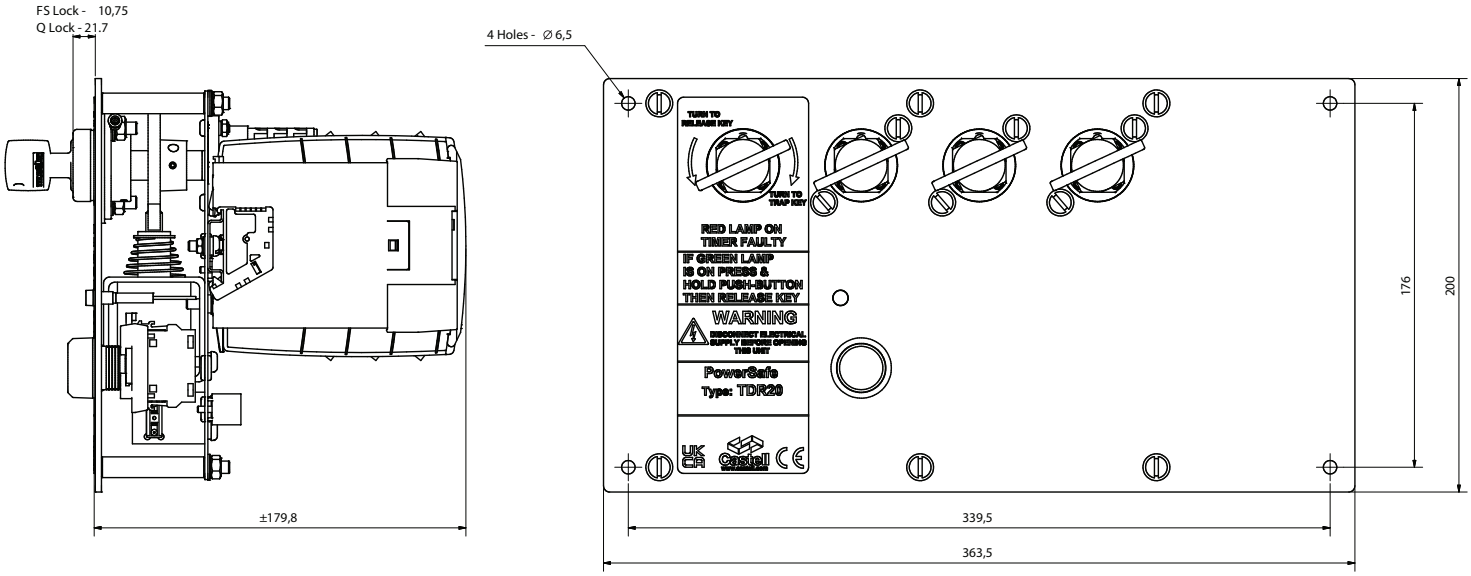
While every effort has been made to ensure the accuracy of the information provided, no liability can be taken for any errors or omission.
Sentric Safety Group reserves the right to alter specifications and introduce improvements without prior notice.

DRAWING

Dimensions: in mm

Note: For safe mounting, use security screws

TDR, panel mount (BOB = back of board)



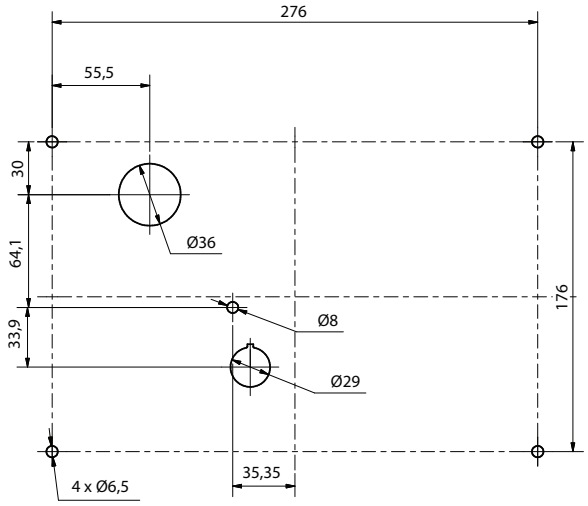
While every effort has been made to ensure the accuracy of the information provided, no liability can be taken for any errors or omission.
Sentric Safety Group reserves the right to alter specifications and introduce improvements without prior notice.

DRAWING

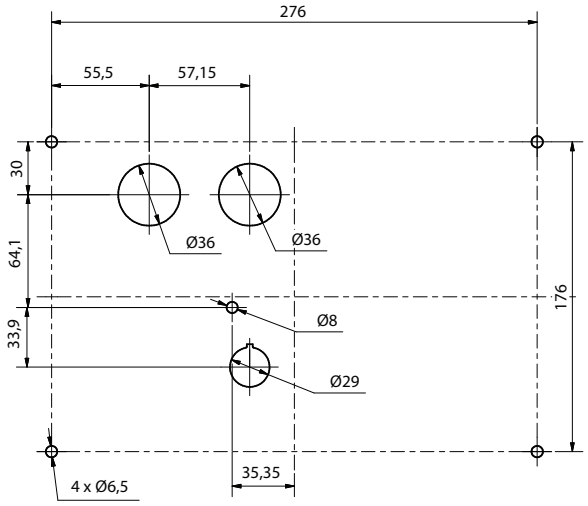
Dimensions: in mm

Note: For safe mounting, use security screws

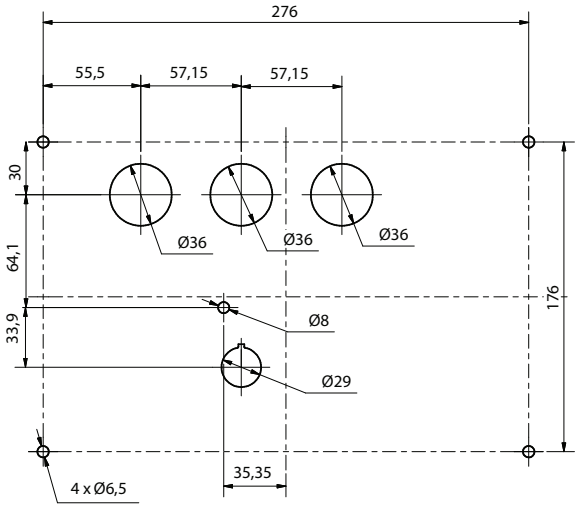
TDR, panel mount/enclosure version (BOB = back of board)



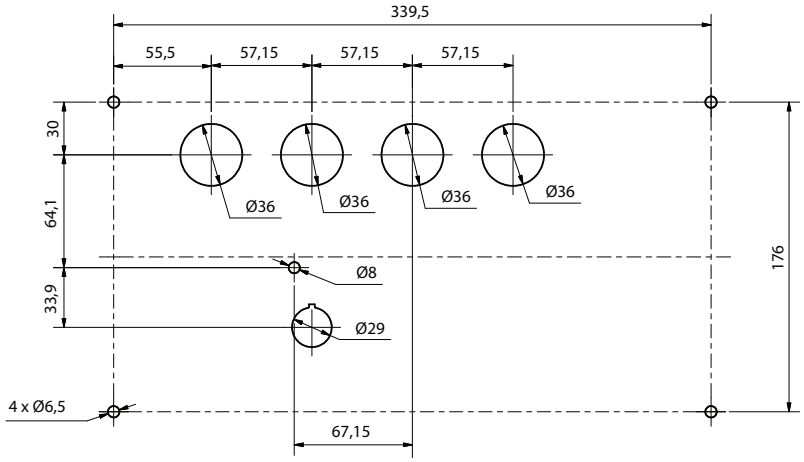
TDR-1



TDR-3



TDR-3

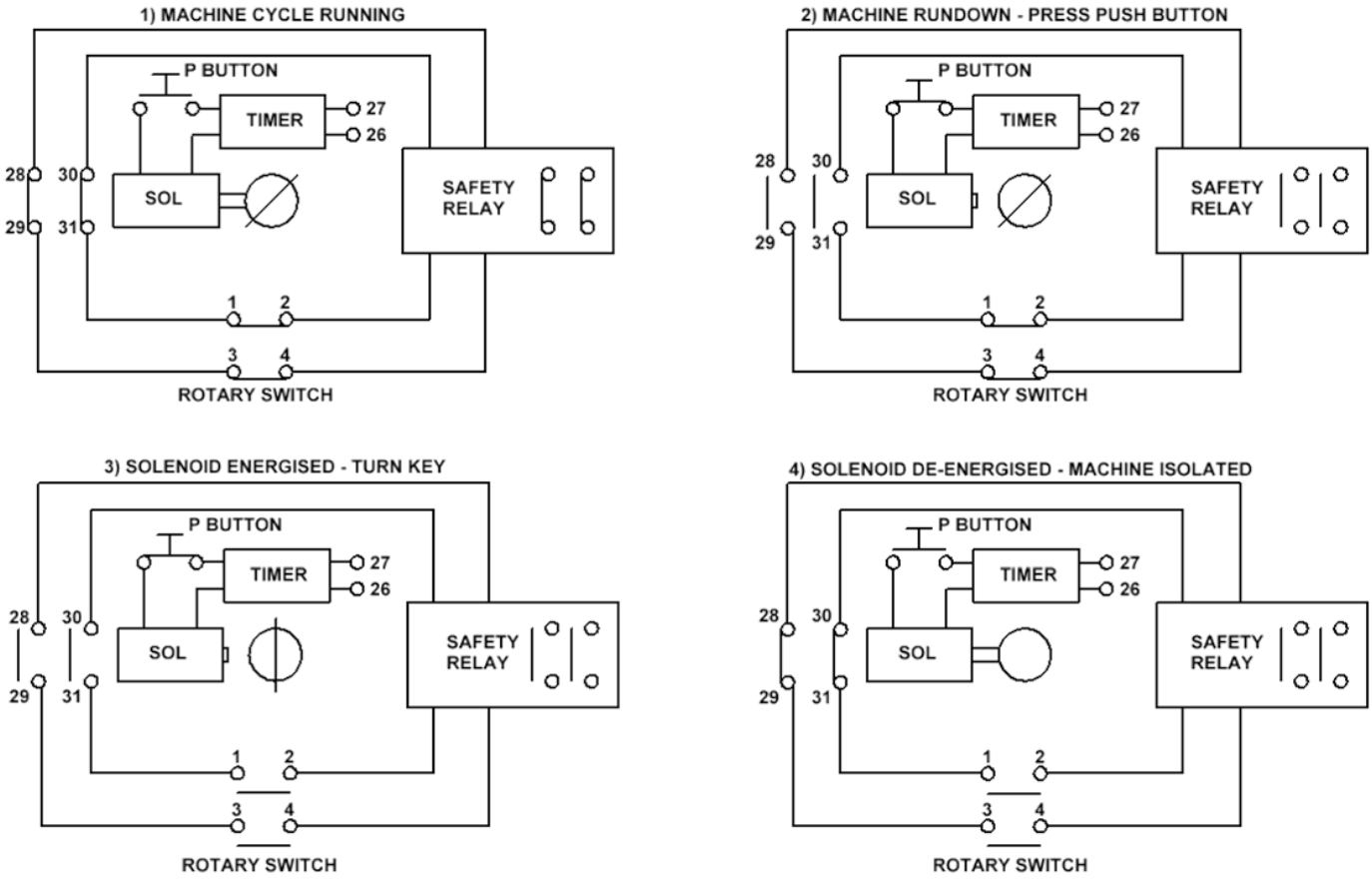


TDR-4

While every effort has been made to ensure the accuracy of the information provided, no liability can be taken for any errors or omission.
Sentric Safety Group reserves the right to alter specifications and introduce improvements without prior notice.

WIRING DIAGRAM

TDR



While every effort has been made to ensure the accuracy of the information provided, no liability can be taken for any errors or omission.
Sentric Safety Group reserves the right to alter specifications and introduce improvements without prior notice.

TDR
Time Delay Remote Unit with Electrical Isolation

ORDER INFORMATION

	Component type		1	2		3		4	5		6	7	8		9		10
Part number	TDR	-			-		-			-				-		-	
Example	TDR	-	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)
10	**Lock portion symbol:** Primary key (located next to switch)	FS [1] up to 3 characters / Q [1] up to 6 characters
11	**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

Castell Safety International
The Castell Building, 217 Kingsbury Road, London, NW9 9PQ, UK
Tel: +44 (0)20 8200 1200 **Email:** sales@castell.com

While every effort has been made to ensure the accuracy of the information provided, no liability can be taken for any errors or omission.
Sentric Safety Group reserves the right to alter specifications and introduce improvements without prior notice.

U-TDR-001-E Issue 9 (10-26)