

T2F Series

Machine Safety Devices

Applications

- PCB manufacturing equipment
- Semiconductor process equipment
- Panel Process Equipment
- Automation Equipment

Introduction

T2 series safety light curtains optical design architecture is compact and in line with international safety standards. The safety light curtains as a whole also meets the safety requirements of the international safety standards IEC61496-1 and IEC61496-2 TYPE 2, and has obtained the certificate of conformity of well-known European notified bodies.

Ultra-light and slim, compact models that can be installed in compact spaces, such as Semiconductor industries, PCB manufacturing industries, panel industries etc.



Property

- Various type, 14mm 、 24mm detection capability.
- Detection zone 154mm ~ 1264mm.
- Operating distance 0.4m ~ 2m.
- Enclosure Rating P62.
- Ultra-light and slim, Easy Installation.
- Metal casing, Anodizing.



TD0401BT

General Specifications

Number of beam	14 ~ 124	7 ~ 62
Detection capability	14mm	24mm
Detection zone	154mm ~ 1254mm	164mm ~ 1264mm
Operating distance	0.4m ~ 2m	0.4m ~ 2m
Response time	20msec (Exclude relay switch time)	
Operating temperature	0°C to +50°C	
IP rating	IP62(Ingress Protection)Ratings	
Power supply	24VDC $\pm$ 20% · 1.5A (MAX)	
Power consumption	TX 200mA + RX 200mA + OSSD Output (500mA max.)	
Connector	Direct cable out wiring ; M8 Cable Connector	
Appearance	Aluminum Extrusion ; Yellow Anodizing	
Classification	IEC61496-1 & IEC61496-2 : TYPE 2 IEC62061 SIL1 & ISO13849-1 PLC	
Output mode	2 independent outputs (type: solid state PNP transistor switches 500mA@24V DC)	

T2F Series

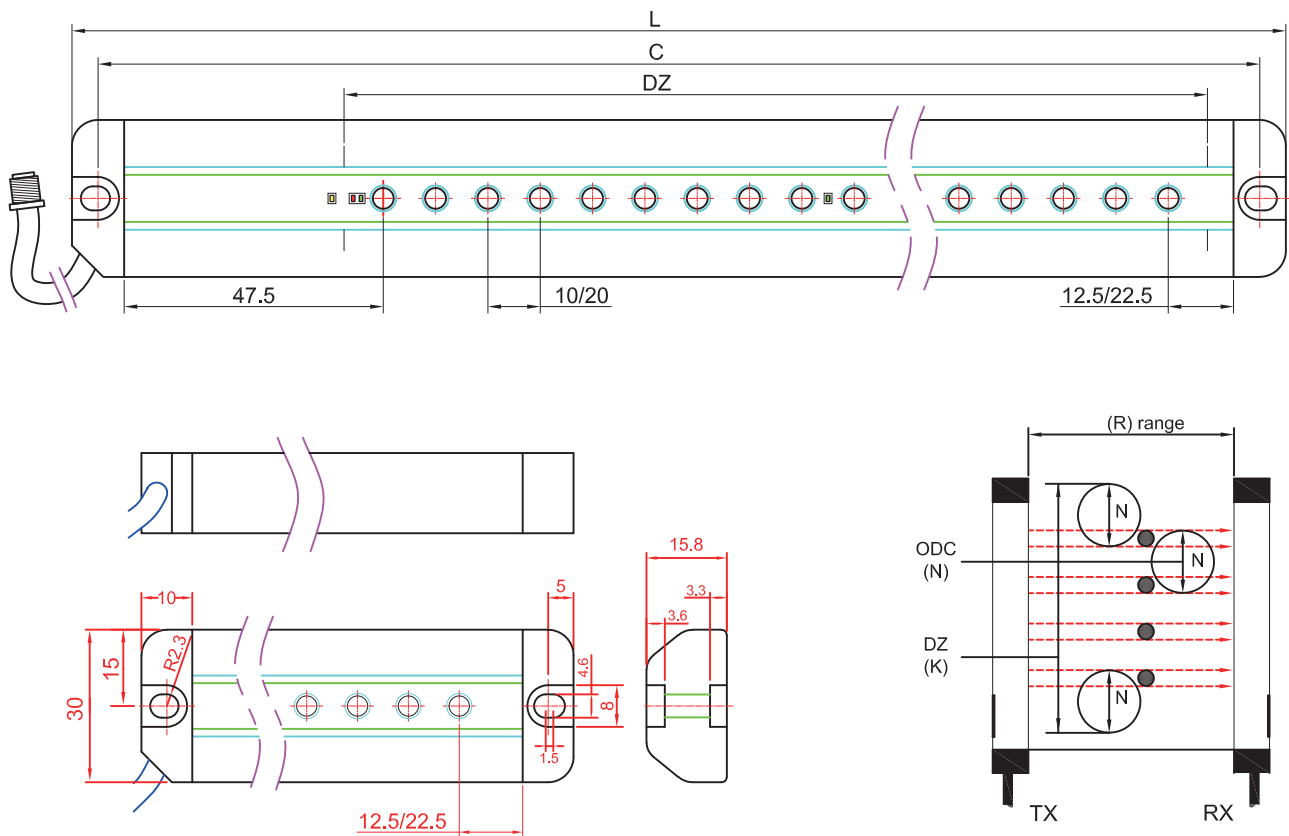
Detection Capability 14mm		Operating distance 0.4m to 2m		
Beams	Model	Detection Zone (DZ)(mm)	Install Length (C)(mm)	Assembly Length (L)(mm)
14	T2F-1014	154	200	210
24	T2F-1024	254	300	310
34	T2F-1034	354	400	410
44	T2F-1044	454	500	510
54	T2F-1054	554	600	610
64	T2F-1064	654	700	710
74	T2F-1074	754	800	810
84	T2F-1084	854	900	910
94	T2F-1094	954	1000	1010
104	T2F-10104	1054	1100	1110
114	T2F-10114	1154	1200	1210
124	T2F-10124	1254	1300	1310

► Other dimensions please inquire Smartscan TW.

T2F Series

Detection Capability 24mm		Operating distance 0.4m to 2m		
Beams	Model	Detection Zone (DZ)(mm)	Install Length (C)(mm)	Assembly Length (L)(mm)
7	T2F-2007	164	200	210
12	T2F-2012	264	300	310
17	T2F-2017	364	400	410
22	T2F-2022	464	500	510
27	T2F-2027	564	600	610
32	T2F-2032	664	700	710
37	T2F-2037	764	800	810
42	T2F-2042	864	900	910
47	T2F-2047	964	1000	1010
52	T2F-2052	1064	1100	1110
57	T2F-2057	1164	1200	1210
62	T2F-2062	1264	1300	1310

► Other dimensions please inquire Smartscan TW.

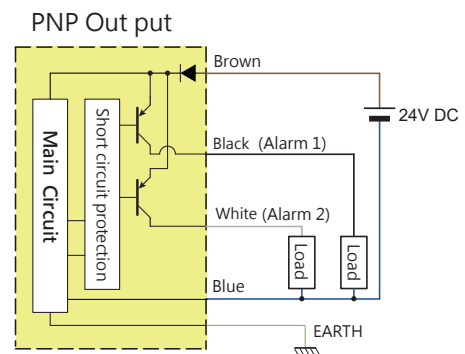
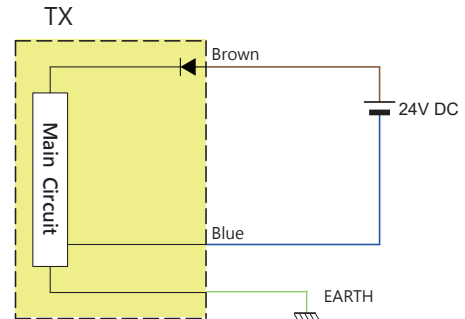
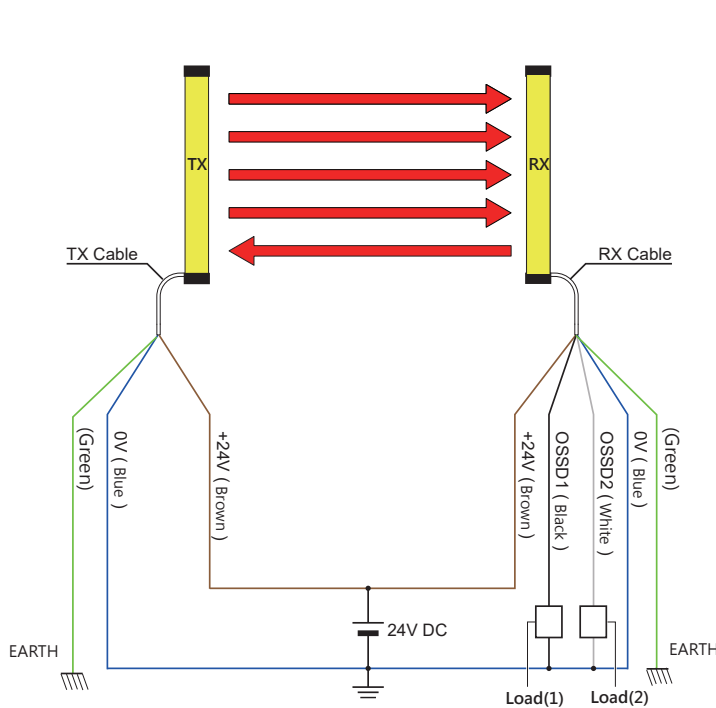


Electric Wiring

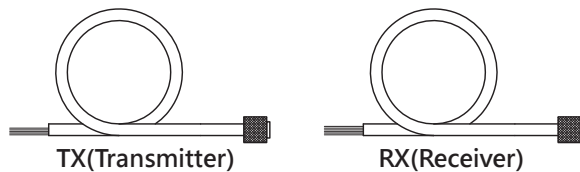
► Please refer to the installation manual for detailed.

Input - Output circuit

(1)Power	Vin +24V DC transmitter and receiver(Brown+24V , Blue 0V), we suggest using independently power module. It could avoid surging, Ferrite core installs in RX and case connects with Gnd.
(2)Output	Two groups of transistor(PNP) signal output OSSD1 and OSSD2 ; DC+24Vduring light curtain normal operation(at a of current UP TO 500 mA each).



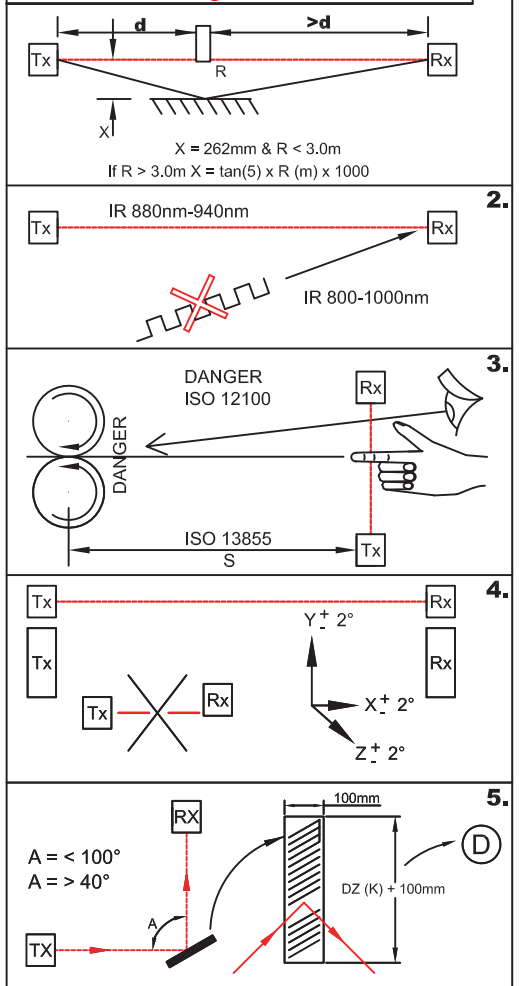
Accessories



T2F Series - M8 Connector Cable		
Cable model	M8 Connector Cable contents	
T2F-3M-180-RX	T2F series cable	3M (Receiver)
T2F-5M-180-RX	T2F series cable	5M (Receiver)
T2F-10M-180-RX	T2F series cable	10M (Receiver)
T2F-15M-180-RX	T2F series cable	15M (Receiver)
T2F-3M-180-TX	T2F series cable	3M (Transmitter)
T2F-5M-180-TX	T2F series cable	5M (Transmitter)
T2F-10M-180-TX	T2F series cable	10M (Transmitter)
T2F-15M-180-TX	T2F series cable	15M (Transmitter)

※ To choose direct cable out wiring there are 3M, 5M, 10M, 15M Cable can be chosen also.

Precautions for Light Curtain Installation



TYPE 2 Safety Certification



Safenet Certification Services Ltd.

Ducart Suite, Castletroy Park Commercial Campus, Limerick, V94 Y6FD, Ireland

Tel: +353 61 50 2046 e-mail: office@safenetcs.ie Website: www.safenetcs.ie

European Notified Body 2805

EC Type Examination Certificate

This is to certify that

Smartscan Taiwan Co., Ltd.

2F, No. 5, 10th Road, Taichung Industrial Park, Taichung, Taiwan, R.O.C.

Has had a range of T2 Light Curtains examined with regards to the Directive 2006/42/EC as amended.

In respect of the **T2F-1014**

Manufactured by:

Smartscan Taiwan Co., Ltd.

2F, No. 5, 10th Road, Taichung Industrial Park, Taichung, Taiwan, R.O.C.

- The technical file contains all the relevant information.
- Having verified that the appropriate tests have been conducted.
 - The standards and transposed standards have been applied correctly.
 - The example representing series production of the item, complies with the essential health and safety requirements of the Directive 2006/42/EC as amended.
 - The technical file contains all the information required to include the models listed in the attached annex to this certificate.
 - The technical file also contains evidence of compliance with EN IEC 61496-1:2020 TYPE 2 and EN IEC 61496-2:2020 TYPE 2, and is suitable for applications regarding EN IEC 62061:2021 SIL 1 and EN ISO 13849-1:2015 PL C.

Certificate Number: 6028051121 version 2

Date: 04/03/2022 Expiry Date: 11/01/2027

Signed for Safenet Certification Services Ltd.

Peter McNicol

Peter McNicol
Technical Manager

This Document remains the property of Safenet Certification Services Ltd and will be returned to them if so requested. The client is required to request a review to ensure continued compliance of the machinery on a 5 yearly basis to check for changes in the state of the art and validity of the certificate.



Safenet Certification Services Ltd.

Ducart Suite, Castletroy Park Commercial Campus, Limerick, V94 Y6FD, Ireland

Tel: +353 61 50 2046 e-mail: office@safenetcs.ie Website: www.safenetcs.ie

European Notified Body 2805

EC Type Examination Certificate

Annex Certificate 6028051121 version 2

Models included:

T2A S series (45mm ODC):
T2A-4S, T2A-8S, T2A-12S, T2A-16S, T2A-20S, T2A-24S, T2A-28S, T2A-32S, T2A-36S, T2A-40S, T2A-44S, T2A-48S

T2A series (45mm ODC):
T2A-4, T2A-8, T2A-12, T2A-16, T2A-20, T2A-24, T2A-28, T2A-32, T2A-36, T2A-40, T2A-44, T2A-48

T2A L series (50mm ODC):
T2A-4L, T2A-8L, T2A-12L, T2A-16L, T2A-20L, T2A-24L, T2A-28L, T2A-32L, T2A-36L, T2A-40L, T2A-44L, T2A-48L

T2A S Perimeter series:
T2A-8S-PRM, T2A-12S-PRM, T2A-16S-PRM

T2A Perimeter series:
T2A-8-PRM, T2A-12-PRM, T2A-16-PRM

T2A L Perimeter series:
T2A-8L-PRM, T2A-12L-PRM, T2A-16L-PRM

T2B S series (30mm ODC):
T2B-8S, T2B-12S, T2B-16S, T2B-20S, T2B-24S, T2B-28S, T2B-32S, T2B-36S, T2B-40S, T2B-44S, T2B-48S, T2B-52S, T2B-56S, T2B-60S, T2B-64S

T2C S series (25mm ODC):
T2C-8S, T2C-12S, T2C-16S, T2C-20S, T2C-24S, T2C-28S, T2C-32S, T2C-36S, T2C-40S, T2C-44S, T2C-48S, T2C-52S, T2C-56S, T2C-60S, T2C-64S

T2F series (14mm ODC):
T2F-1014, T2F-1024, T2F-1034, T2F-1044, T2F-1054, T2F-1064, T2F-1074, T2F-1084, T2F-1094, T2F-10104, T2F-10114, T2F-10124

T2F series (24mm ODC):
T2F-2007, T2F-2012, T2F-2017, T2F-2022, T2F-2027, T2F-2032, T2F-2037, T2F-2042, T2F-2047, T2F-2052, T2F-2057, T2F-2062

This Document remains the property of Safenet Certification Services Ltd and will be returned to them if so requested. The client is required to request a review to ensure continued compliance of the machinery on a 5 yearly basis to check for changes in the state of the art and validity of the certificate.

Status indicators

RX status indication

No.	Internal Indicators	Description
F1	Light curtain clear indicator Green ON	Light curtain clear
	Green OFF	Light curtain blocked
F3	OSSD 1 · OSSD 2 Output state indicator Red ON	OSSD safety output is OFF
	Red OFF	OSSD safety output is ON
	Blinking	Light curtain system is in lockout

TX status indication

No.	Indicator Light	Mean
F2	Light curtain clear indicator Green ON	Light curtain clear
	Green OFF	Light curtain blocked
P1	Light curtain clear indicator Red ON	TX Light curtain power ON

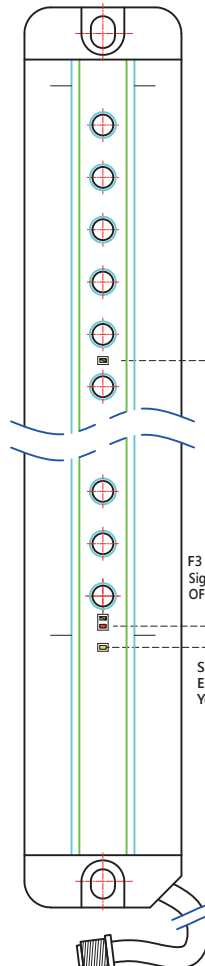
Light curtain internal inspection cycle: 5 msec

Error mode indication patterns and cause of errors

No.	F3	S1	S1 Indicator - blinking sequence pattern mode	Cause of error
OK				Light curtain is normal and actively operations
E0			repeat loop	RX internal system error, or RX power ON reset fault
E1			Red LED = always turn ON	RX internal system error, CPU A and B timing sync loss
E2			Red LED = always turn ON	RX internal system error, CPU I/O port fault
E3			Red LED = always turn ON	Light curtain OSSDs output short to DC 0V
E4			Red LED = always turn ON	Light curtain OSSDs output disparity
E5			Red LED = always turn ON	Light curtain OSSDs output short to DC 24V

: LED ON = 200 msec
 : LED ON = 600 msec
 : LED OFF = 400 msec
 : LED OFF = 1400 msec, repeat loop blinking sequence

RX



TX

