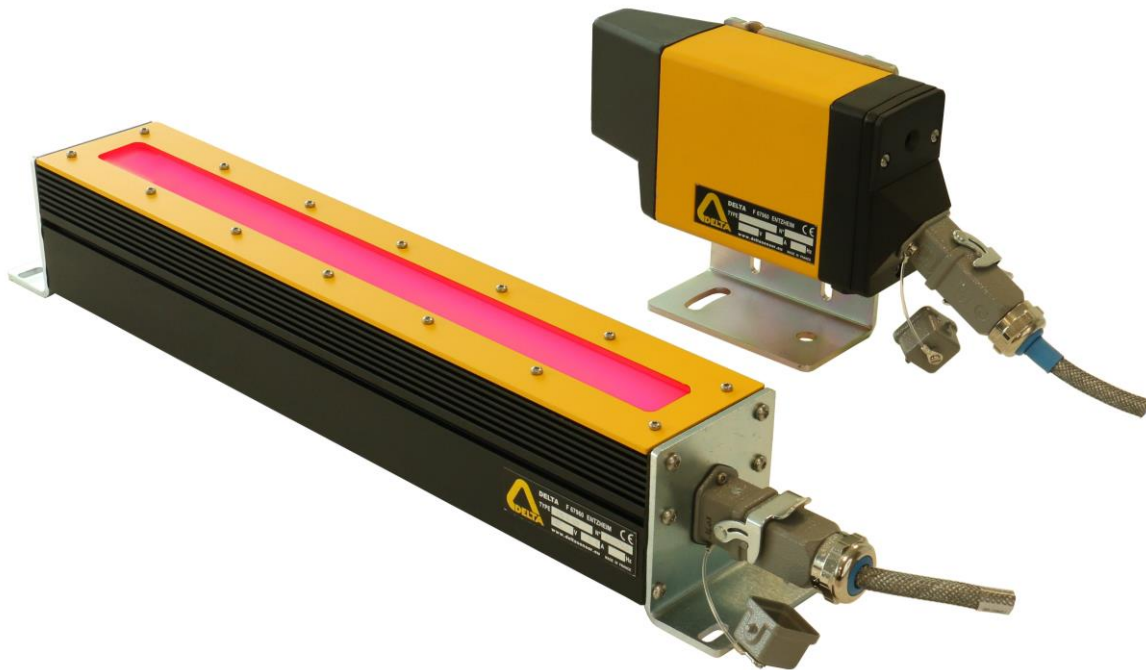


Weld Hole Detector

DTS240/EMR-M-400



Large field of detection

Fast detection

No interference from ambient light

Adjustable detection margin

Lt 1180



Typical applications

The **DTS240** is an optical detector. In association with the **EMR-M-400** emitter, it is able to detect the weld hole made in order to locate the linking weld between two strips.

Main features

- High speed up to 1500 m/min,
- Use of high power LED for high detection margin and long life time,
- Interference suppression by modulated light,
- 2 models with high (DTS240) or low sensitivity (DTS241): the low sensitivity is recommended to avoid detection of small holes (defect) in the strip,
- Adjustable detection margin,
- Designed for steel industry conditions,
- Heavy duty connectors.

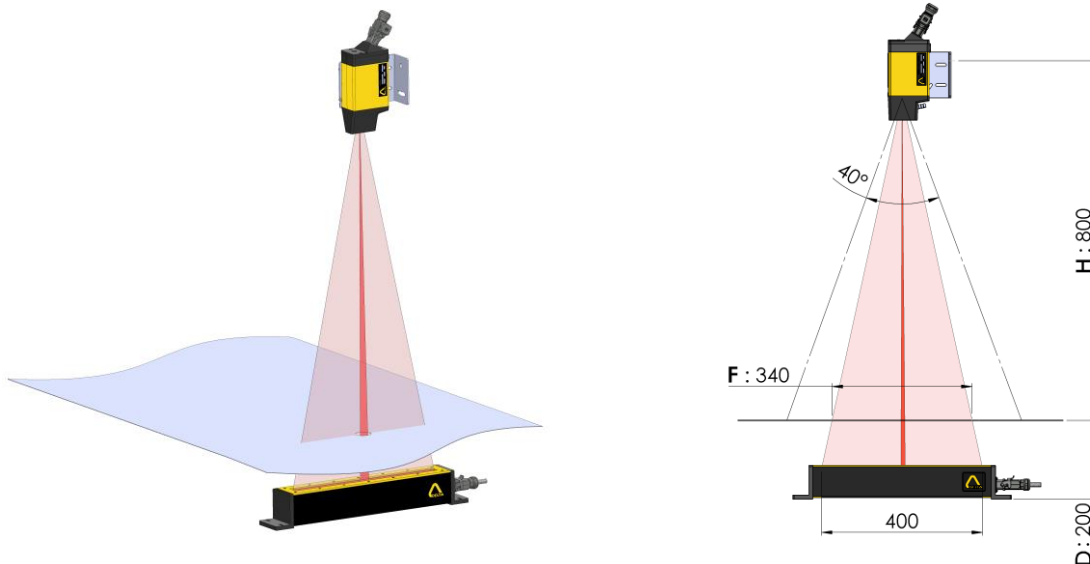


Potentiometer behind back cover for setting the detection margin

Typical installation

Receiver and emitter are fixed perpendicular to the line axis in order to take the lateral deviation of the strip into account. The following conditions have to be held for a proper detection:

- The **DTS240** field of view should completely cover the lateral position of the hole.
- The emission of the emitter **EMR-M-400** should completely cover the lateral position of the hole.
- When there is no hole, the emitter should be completely covered by the strip regardless of the lateral deviation of the strip. For applications where the emitter is not completely covered by strip, DELTA has developed the **DTR340**.
- The figure below shows a typical mounting arrangement and the table gives the field of detection for different distances between pass line and receiver / emitter.



in mm		H: Distance receiver – pass line				
		500	600	700	800	900
D: Distance emitter – pass line	200	310	325	335	340	350
	300	260	280	295	305	315
	400	225	245	265	275	285
	500	200	220	240	250	265

F: Field of detection for different distances receiver and emitter.



Performances

Receiver	DTS240 - •	DTS241 - • (1)
Line speed	Max. 1500 m/min	
Weld hole diameter	Min. 6 mm	
Detection field	40 ° x 6 °	
Distance Receiver – Emitter	Max 3500 mm	Max 1200 mm

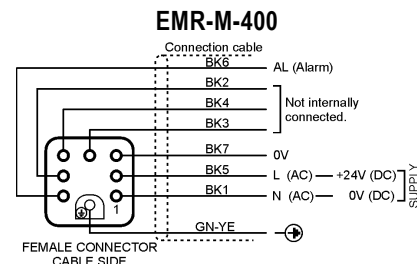
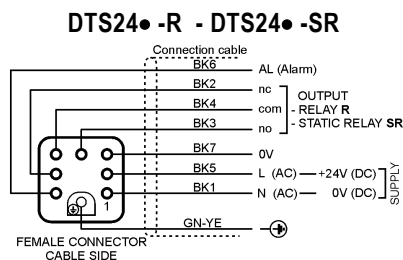
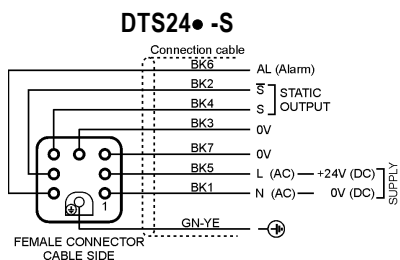
(1): DTS241 (low sensitivity) is recommended to avoid detection of small holes (defect) in the strip. Sensitivity adjustment may be required.

Receiver	DTS24•- S Transistor Output	DTS24•- SR Isolated solid state relay output	DTS24•- R Relay Output
Electrical characteristics	2 complementary push-pull outputs, short circuit protection, Low impedance : 0/24 V - 100 mA max.	2 Optocoupled complementary Solid State Relay : Impedance : 50 Ω Switching capacity +/- 350 V peak +/- 100 mA peak	Single pole changeover Switching capacity : 230 V a.c. – 2.5 A a.c.
Response time	1 ms		Make time : 8 ms Break time : 4 ms
On time	500 ms		
Alarm	Push-pull output, short circuit protection, 0/24 V - 50 mA max 0V if received light too low or internal temperature > 131 °F		
LED indicator	Off: No detection Green: Detection	Red: Alarm, no detection Orange: Alarm, detection	
Operating temperature	-20 to 70 °C (0 to 158 °F)		
Operating voltage	220 V (-15%) to 240 V (+10%) - 50 / 60 Hz or 110 V (-15%) to 120 V (+10%) - 50 / 60 Hz	24 V DC (±20%)	
Power consumption	10 VA	8W	

Emitter	EMR-M-400	
Emitter	Red LED, with modulation	
Emission length / width	400 mm / 30 mm	
Alarm output	Push-pull output, short circuit protection, 0/24 V - 50 mA max 0V if internal failure or internal temperature > 131 °F	
Operating temperature	-20 to 55 °C (0 to 140 °F)	
Operating voltage	110 V (-15%) to 240 V (+10%) - 50 / 60 Hz	24 V DC (±20%)
Power consumption	20 VA	10 W

Connection	Connector with 2 m cable Standard length of 2 m (other length: 3, 5 or 8 m)
Weight	Receiver DTS24• : 2,8 kg Emitter EMR400 : 4,2 kg
Protection rating	IP 66

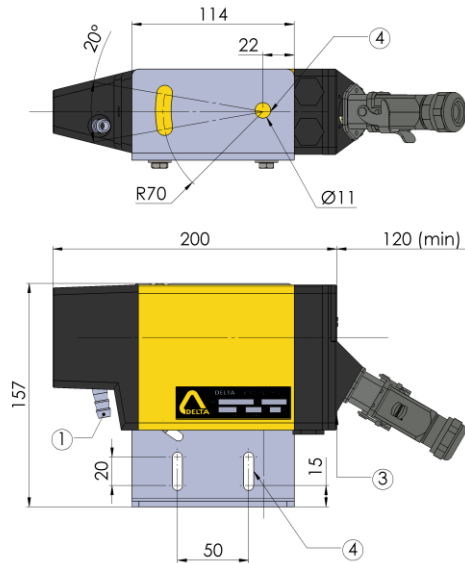
Connection





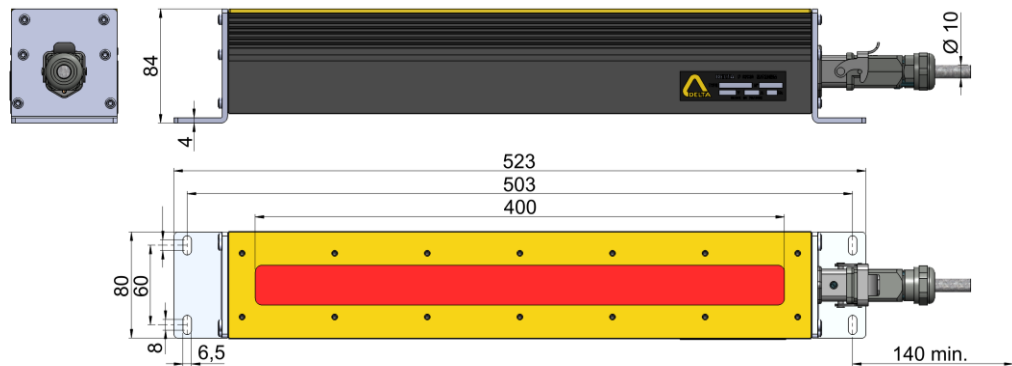
Dimensions

DTS24•



- ① Air supply
- ② Optical axis
- ③ Connector clearance 120 mm
- ④ Mounting with 2 screws M6 or M10

EMR-M-400



Reference for order

Receiver **DTS24• - •• ••**

E.g. : **DTS240-R 230 VAC**

Sensitivity	Output	Supply voltage
0: High Sensitivity 1: Low Sensitivity	S: Transistor SR: Isolated solid state relay R: Relay	230 VAC 115 VAC 24 VDC

Emitter **EMR-M-400 ••**

E.g. : **EMR-M-400 115-230 VAC**

Supply voltage
115-230 VAC 24 VDC

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Subject to change without prior notice

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