

IP Based Track Debris Camera For Rolling Stock

eyeTrain

eyeTrain is designed to rail group standards, and incorporates the very latest in video, storage and communications technology.

The eyeTrain range offers a variety of high performance image technologies matched to the harsh environment of rolling stock applications, providing the highest performance and resilience on the market.



Specifications

General

Type	IP Camera for Rolling Stock Use
Form Factor	Box type (steel) intended for use in secondary enclosures
Part Number	TDC-ST-397
Approximate Dimensions	73 mm (W) x *95.2 mm (D) x 76 mm (H) (*Add 7 mm for the lens)
Weight	0.4 kg

Sensor

Type	1/2.8" Progressive Scan CMOS Sensor
Dynamic Range	WDR >120 dB
Signal to Noise Ratio	>50 dB
Sensitivity	0.001 lux min illumination (F1.2, Colour)
Resolution	2 M pixel
Lens	M12 thread, focal length as below

Viewing Angle

Focal Length	Horizontal Angle	Vertical Angle
8 mm	38.3 °	22.1 °

Data Transmission

Communications Protocol	Ethernet TCP/IP, UDP, RTP, RTSP, RTCP, HTTP, DNS, DDNS, DHCP, FTP, NTP, PPPOE Dual Stream
Compression	MJPEG, H.264, 32 Kbps to 16 Mbps CBR / VBR
Video Frame rate	Up to 25 fps
Video Resolution	720p and 1080p

Environmental

Temperature Range	-25 °C to +55 °C (Operational T1)
Ingress Protection	IP65

... a level of runtime
stability and resilience
not normally associated
with high technology
systems...

IP Based Track Debris Camera For Rolling Stock



Electrical

Power Consumption
Power Supply

4 W max
PoE, 802.11E IEEE 3af Mixed DC & Data (Mode A)

Connectivity

Connector
Type

M12 Female D-Coded
Fixed

Connections

Pin	Signal
1	Tx Data +
2	Rx Data +
3	Tx Data -
4	Rx Data -

Standards Compliance

Shock & Vibration
Ingress Protection
Cooling
Dry Heat
Low Temp Storage

EN50155:2007, 12.2.11 EN61373:2010
EN60529:1992
EN50155:2007, 12.2.3 EN60068-2-1:2007 Test Ad
EN50155:2007, 12.2.4, EN60068-2-2:2007 Test Bd
EN50155:2007, 12.2.14, EN60068-2-1

Earth Bonding

EN50155:2007

Conducted Emissions
Radiated Emissions
Radiated Susceptibility
Conducted Susceptibility
Fast Transient Burst Sus.

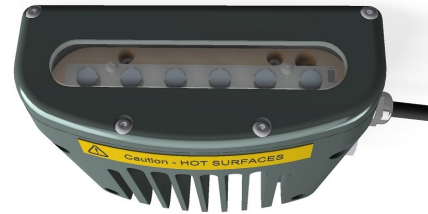
EN50155:2007 12.2.8.2, EN50121-3-2:2015, EN55011:2009 +A1:2010
EN50155:2007 12.2.8.2, EN50121-3-2:2015, EN55011:2009 +A1:2010
EN50155:2007, 12.2.8.1, EN50121-3-2:2015, EN61000-4-3:2006 +A1:2010
EN50155:2007, 12.2.8.1, EN50121-3-2:2015, EN61000-4-6:2009
EN50155:2007, 12.2.7.3, EN 50121-3-2:2015, EN61000-4-4:2004 A1:2010

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Ruggedised Low Profile IR Track Debris Illuminator For Rolling Stock

eyeTrain

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Specifications

General

Type	Rugged Low Profile Infra Red Track Debris Illuminator
Manufacturer	Petards
Part Number	TDI-ST-397
Dimensions	76 mm (H) x 198 mm (W) x 190 mm (L)
Weight	3 kg

Specification

Input Voltage	38 V max
Input Current	700 mA (Via Constant Current Supply)
Colour Temperature	850 nm IR
Luminous Power	Provides illumination to enable camera to operate in all lighting conditions.
Connections	

Deutsch DT06-4S-CE05 PLUG

Pin 1	+38 V DC
Pin 2	0 V

Environmental

Temperature Range	-25 °C to +70 °C (Operational T3)
Ingress Protection	IP 66

Standards Compliance

Shock & Vibration	EN50155:2007, 12.2.11 EN61373:2010
Ingress Protection	EN60529:1992
Cooling	EN50155:2007, 12.2.3 EN60068-2-1:2007 Test Ad
Dry Heat	EN50155:2007, 12.2.4, EN60068-2-2:2007 Test Bd
Low Temp Storage	EN50155:2007, 12.2.14, EN60068-2-1
Insulation	EN50155:2007, 12.2.9.1
Voltage Withstand	EN50155:2007, 12.2.9.2
Variation of Voltage Supply	EN50155:2007, 12.2.2.a
Supply Over-voltage	EN50155:2007, 12.2.6
Supply Interruption	EN50155:2007 12.2.2.b
Earth Bonding	EN50155:2007
Reverse Polarity	EN50155:2007
Conducted Emissions	EN50155:2007 12.2.8.2, EN50121-3-2:2015, EN55011:2009 +A1:2010
Radiated Emissions	EN50155:2007 12.2.8.2, EN50121-3-2:2015, EN55011:2009 +A1:2010
Radiated Susceptibility	EN50155:2007, 12.2.8.1, EN50121-3-2:2015, EN61000-4-3:2006 +A1:2010
Conducted Susceptibility	EN50155:2007, 12.2.8.1, EN50121-3-2:2015, EN61000-4-6:2009
Fast Transient Burst Sus.	EN50155:2007, 12.2.7.3, EN 50121-3-2:2015, EN61000-4-4:2004 A1:2010
Electrostatic Discharge	EN50155:2007, 12.2.7.2, EN50121-3-2:2015, EN61000-4-2:2009
Surges	EN50155:2007, 12.2.7.1, EN 50121-3-2:2015, EN 61000-4-5:2006