# ToughCam-1000™ Spec Sheet

Version 1.5

ToughCam-1000™ features the same build quality, reliability, vibration/shock resistance and resilience to the extreme weather as ToughEye-1700™ family of cameras except it does not feature ToughEye-1700™'s self-cleaning capabilities. ToughCam-1000™ would be a good choice for applications with harsh environments that are not necessarily dirty. You can mix and match ToughCam-1000™ and ToughEye-1700™ in the same installation as the cables are interchangeable.
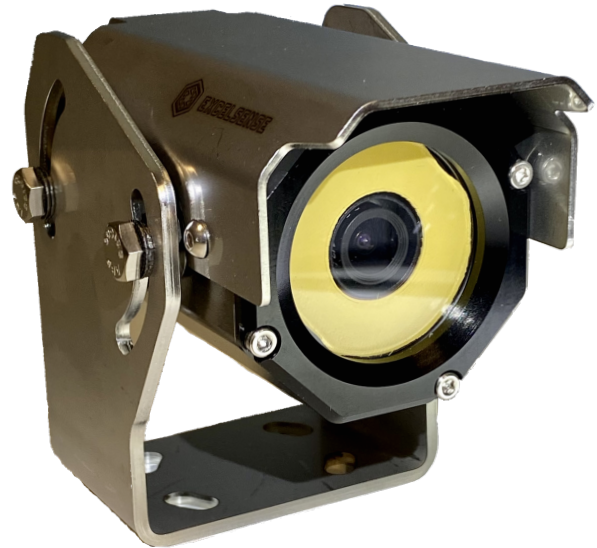
ExcelSense can customize ToughCam-1000™ installations for almost any application. Please inquire with solutions@thiessenteam.com.

SPECIFICATIONS

GENERAL

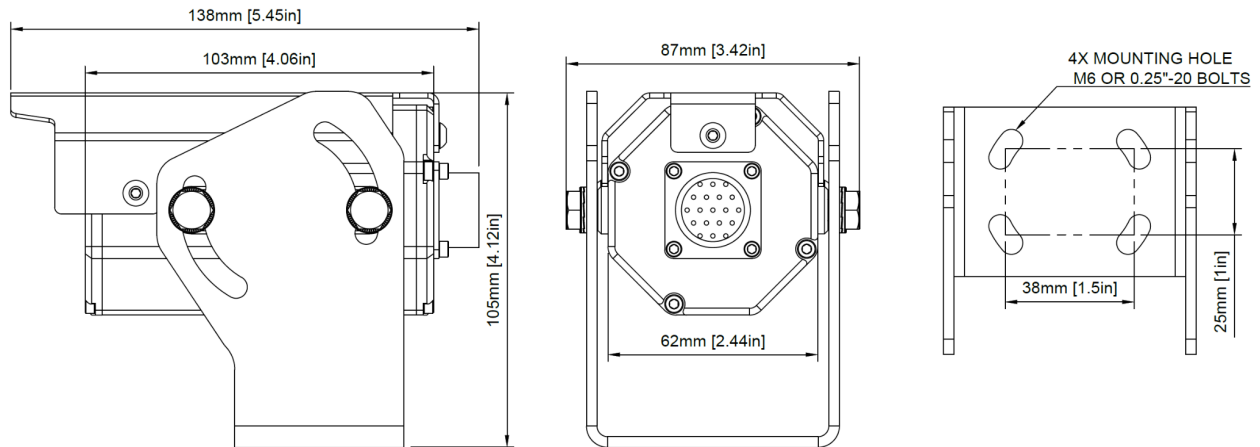|	
Dimensions	68mm dia x 117mm [2.677in x 4.582in]
Weight	0.65kg [1.433lb] - 1.1kg [2.425lb] with Bracket and Sunshield
Power	PoE (IEEE802.3af/at, Class 4)
Thermal	-40°C to 60°C (operation and storage)
IP Rating	Designed to IP69
Vibration	11g

ELECTRICAL

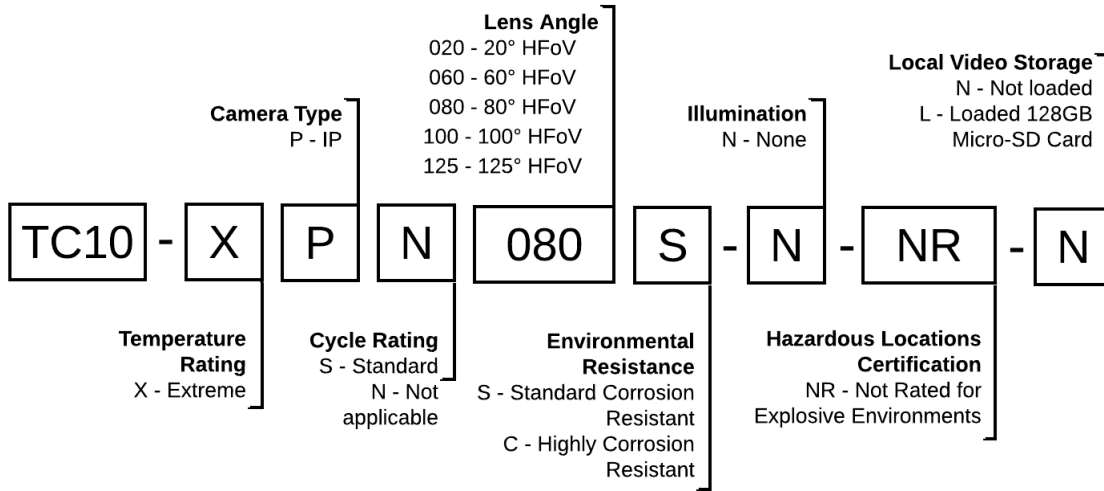| Parameter	Min	Typ	Max
Input Voltage (Active PoE), V_{IN}	36V		57V
Power Consumption, P_{IN}	4W (Idle)		10.5W (Heating)
Max Cable Length[2], L_{MAX}			100m

CAMERA

Image Sensor	2.1 MP
Effective Pixels	1920 (H) x 1080 (V)
Horizontal FoV	Approx. 20°, 60°, 80°, 100°, 125°
Min Illumination	Color: 0.001 Lux @ (F1.2, AGC ON)
	B/W: 0.0001 Lux @ (F1.2, AGC ON)
Wide Dynamic Range	True WDR (>120dB)
IP Video	H.265 (1920x1080) | H.264 (1920x1080) | MJPEG (1280x720)
Streaming Capability	Stream 1: 1920×1080/1280×720 @50/60fps
	Stream 2: D1/VGA/640×360/CIF/QVGA @25/30fps
	Stream 3: VGA/CIF/QVGA @25/30fps
Network	IPv4/IPv6, 802.1x, HTTP, HTTPS, TCP/IP, UDP/IP, RTSP, DHCP, NTP, RTCP/RTP, PPPoE, SMTP, DNS, UPnP, FTP, ARP, SNMP
ONVIF	Profile S, Profile G, Profile Q
Recording	128GB max storage - Continuous, Motion, Pre/Post Alarm

MECHANICAL DRAWING

138mm [5.45in]
103mm [4.06in]
105mm [4.12in]

87mm [3.42in]
62mm [2.44in]

4X MOUNTING HOLE
M6 OR 0.25"-20 BOLTS
38mm [1.5in]
25mm [1in]

ORDERING OPTIONS

Lens Angle
020 - 20° HFoV
060 - 60° HFoV
080 - 80° HFoV
100 - 100° HFoV
125 - 125° HFoV

Camera Type
P - IP

Illumination
N - None

Local Video Storage
N - Not loaded
L - Loaded 128GB
Micro-SD Card

| TC10 | - | X | P | N | 080 | S | - | N | - | NR | - | N |

Temperature Rating
X - Extreme

Cycle Rating
S - Standard
N - Not applicable

Environmental Resistance
S - Standard Corrosion Resistant
C - Highly Corrosion Resistant

Hazardous Locations Certification
NR - Not Rated for Explosive Environments

TC10 - ToughCam-1000™ camera

Temperature Rating
X - Extreme: -40ºC to 60ºC

Camera Type
P - IP: IP Camera

Lens Angle (customization available)
020 - Approx. 20° Horizontal FoV
060 - Approx. 60° Horizontal FoV
080 - Approx. 80° Horizontal FoV
100 - Approx. 100° Horizontal FoV
125 - Approx. 125° Horizontal FoV

Environmental Resistance
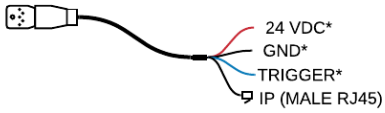**S** - Standard Corrosion Resistant
C - Highly Corrosion Resistant

Illumination
N - No Illumination

Hazardous Locations Certification
NR - Not Rated for Explosive Environments

Local Video Storage
N - Not Loaded
L - Loaded 128GB Micro-SD Card

ACCESSORIES

MAIN CABLE

MC17-SC-XXM-X-IP

24 VDC*
GND*
TRIGGER*
IP (MALE RJ45)

MC17-SC-XXM-X-DU

24 VDC*
GND*
TRIGGER*
MALE BNC*
IP (MALE RJ45)
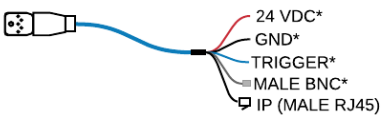
Cable Type
AN - Analog Cable
IP - IP Cable
DU - Dual (Analog/IP) Cable

MC17	-	SC	-	10M	-	X	-	IP
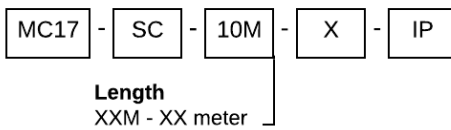
Length
XXM - XX meter

Main cable can be used in IP camera ToughCam-1000 installations. The IP cable includes a shielded Cat-5e cable for 10/100 Base-T signal transmission.

* No connection when used with ToughCam-1000

Available in: **10m, 20m, 30m, 40m** lengths

M12 ADAPTER IP CABLE

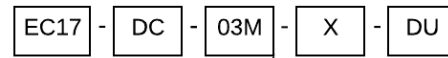| AC17	-	M12XRA	-	10M	-	IP

Conn 1
AC17 - TE1700 Connector

Length
XXM - XX meter

Conn 2
M12XRA - M12 X coded, Right-Angle

M12 adapter cables can be used in all IP camera TC10 installations. These cables take advantage of PoE input to reduce cabling complexity and cost.
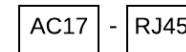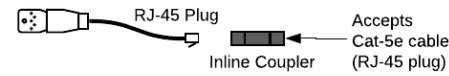
EXTENSION CABLE

EC17	-	DC	-	03M	-	X	-	DU

Length
XXM - XX meter

Extension cables can be used to increase the length of existing cables. Available in: **3m, 10m** lengths

POE ADAPTER KIT

RJ-45 Plug
Accepts Cat-5e cable (RJ-45 plug)
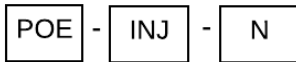Inline Coupler

AC17	-	RJ45

The PoE adapter kit provides a waterproof RJ-45 connection using the IP67 inline coupler, which accepts an RJ-45 plug. When connected to a IEEE802.3af compliant PSE (e.g. PoE Injector or switch), it is the simplest way to power and operate the camera.

PoE / PoE+ INJECTOR

Industrial Version

PoE   LAN

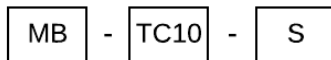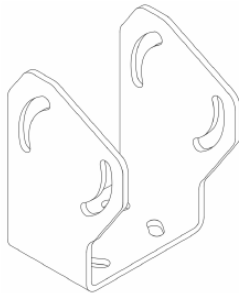12-24VDC
INPUT
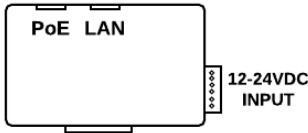
ExcelSense Part Number

POE - INJ - N

Manufacturer
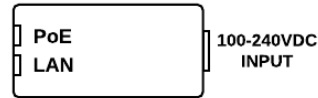American Electrical Inc.
Manufacturer Part Number
POE-24

Industrial IEEE 802.3af/at PoE/PoE+ injector with integrated DIN-rail mount for use with PoE adapter cable or the IP main cable. Recommended for industrial applications. Accepts 12-24VDC, 33W max.

MB - TC10 - S

Standard mounting bracket. Suitable for installations requiring +15° to -60° down camera orientations. The MB-TC10-S comes standard with the ToughCam-1000™.

Standard Version

PoE
LAN

100-240VDC
INPUT

ExcelSense Part Number

POE - INJ - S

Manufacturer
TrendNet
Manufacturer Part Number
TPE-115GI

Standard IEEE 802.3af/at PoE/PoE+ injector for use with PoE adapter cable or the IP main cable. Recommended for non-industrial indoor applications. Accepts 100-240VAC, 50/60Hz, 0.6A max.

TYPICAL INSTALLATIONS

Network Configuration

The installations shown below illustrate the two main methods of powering and connecting to the ToughCam-1000™: through PoE or 24VDC.

Power and Stream with PoE

This configuration allows any Cat-5e cable to be used to power and communicate with the ToughCam-1000™ camera. No custom cabling is required to be routed, as the Cat-5e cable plugs into the custom short adapter cable for plug and play functionality. As seen in the diagram below, either a PoE compliant power sourcing equipment or a non-compliant switch with a PoE injector can be used to power the camera.