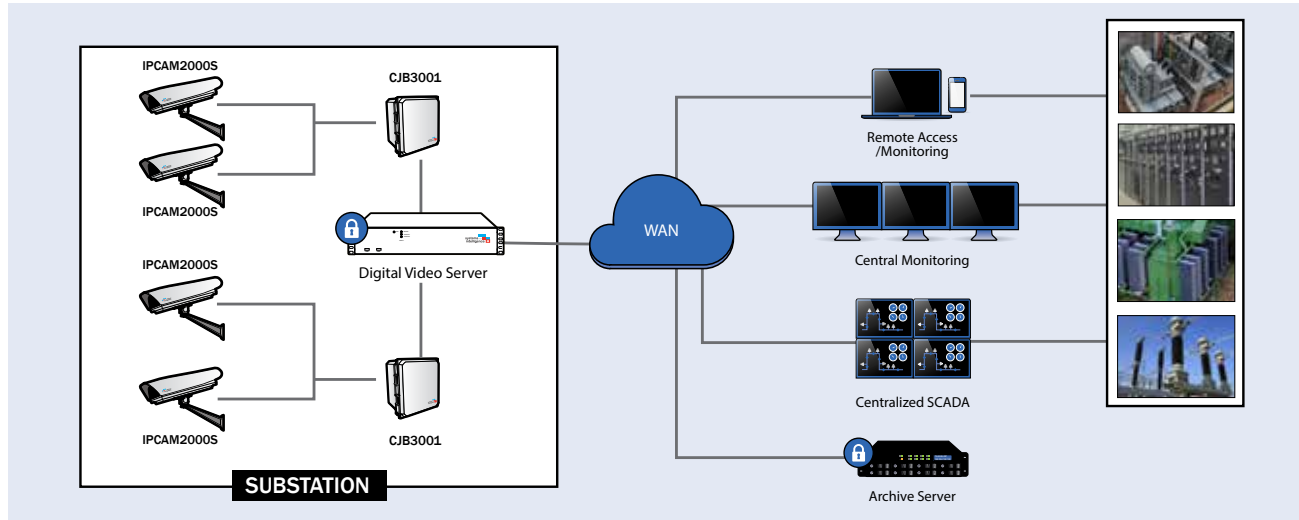# IPCAM2000S SUBSTATION IP CAMERA

FEATURES

- IEC61850-3, IP66, -40^{0}C to +85^{0}C Substation Rated Network Camera
- Controllable Resolution, Frame Rate and Video Compression
- 1080p High Definition and Infrared Illuminators
- Fiber Optic network connectivity
- Integrated Video System Analytics

KEY BENEFITS

- High Reliability Operation in Extreme Environments
- Clear Day and Night Vision
- Optimized Bandwidth for Remote Locations
- High Level of Immunity to the Effects of EMI, Voltage Surges and Interrupts
- Automated Monitoring and Detection of Events

The Systems With Intelligence IPCAM2000S is the industry's first camera designed from the ground up to meet the strict requirements for electronic devices in substation environments. The IPCAM2000S is a utility grade, substation hardened camera that incorporates unique features that make it ideal for use in challenging environments. It includes features such as fiber optic network connectivity, industrial power supply, and configurable parameters to optimize the camera operation to the available bandwidth. The IPCAM2000S is used in conjunction with the Systems With Intelligence substation grade, SCADA integrated, Digital Video Server to provide utilities a highly reliable video monitoring solution for physical security and asset monitoring applications.
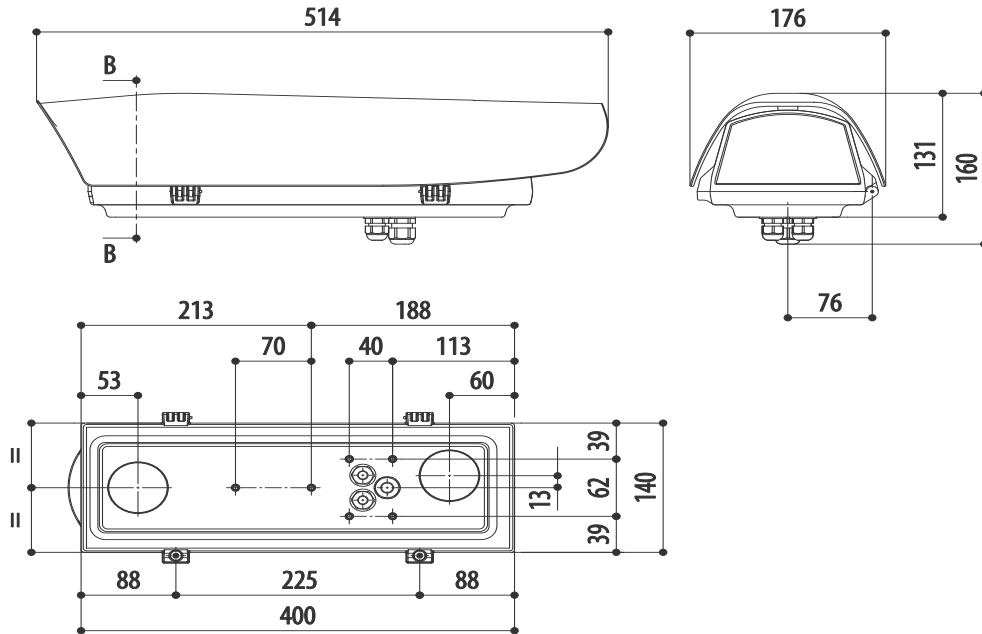
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SUBSTATION MONITORING ARCHITECTURE

TECHNICAL SPECIFICATIONS

SPECIFICATIONS	
CAMERA	
Sensor	1/2.8" CMOS Progressive Scan (2MP)
Lens	Compatible with CS Mount or C Mount with adaptor DC Auto Iris Support
Day/Night	IR cut filter removal (ICR) Off/Dusk/Dark/Custom
Iris	DC-Auto/Manual
Min. illumination	0.2 lux @ F1.2 (Colour) 0.01 lux @ F1.2 (BW)
VIDEO	
Video Compression	H.264 (MPEG-4 Part 10) MJPEG
Resolution	1920 x 1080 (1080p) 1280 x 720 (720p) 720 x 480 (D1) 704 x 480 (4CIF) 704 x 240 (2CIF) 352 x 240 (CIF) 176 x 120 (QCIF)
Frame Rate	30 fps for all resolutions (except 1080p & 720p-15fps)
Video Streaming	Triple Stream: 2ch H.264, 1ch MJPEG Stream-profile: resolution / compression / framerate / video quality
Analog Video Out	BNC port, NTSC/PAL
Image Setting	Brightness, Contrast, AWB, Sharpness, Saturation, Gain, White Balance, Auto Exposure
Image Mirroring	Horizontal/Vertical/Both
Analytics	Directional Motion, Bidirectional Motion
NETWORK	
Interface	Fiber: 100 FX (SC, ST), 10/100TX (RJ45)
Security	Password protection
Protocols	IPv4/v6, DHCP, HTTP, UDP, RTP/RTSP, UPnP, NTP, ICMP, ONVIF IP Camera Support
Software Interface	Web Server

Reset	Factory Default
Power Input	12VDC or 24VAC 120VAC/240VAC (standard junction box) 88-300VDC, 85-250VAC (universal power junction box)
Power consumption	Fiber - max. 7.5W Fiber+Heater - max. 38W
Standards	IEC 61850-3 UL/CSA CISPR 22 FCC Part 15, Class A
ENVIRONMENTAL	
Operating Temperature	-40^{0}C to +85^{0}C
Ingress Protection	IP66: Waterproof and Dust-Tight
Humidity	95%
EMC/EMI	IEC 61850-3; IEEE 1613; IEC 61000-6-2; IEC 61800-3
ENCLOSURE	
Viewing Material	Glass window (WxH) 118x75mm (4.6x2.7in)
Construction	Aluminum
Cable Entry	Gland fitting on bottom of housing
Weight	3.83kg
Bracket	
Material	Aluminum
Length	240mm (9.45")
Max. Load	25kg
Swivel Angle	360°
Heater	On = Less than 15^{0}C / Off = More than 25^{0}C
Maximum Current Draw	900mA
Average Current Draw	350 mA
Fan	On = 35^{0}C or more / Off = Less than 25^{0}C
Average Current Draw	150 mA

* The specification for this product may change without prior notice for product improvement.
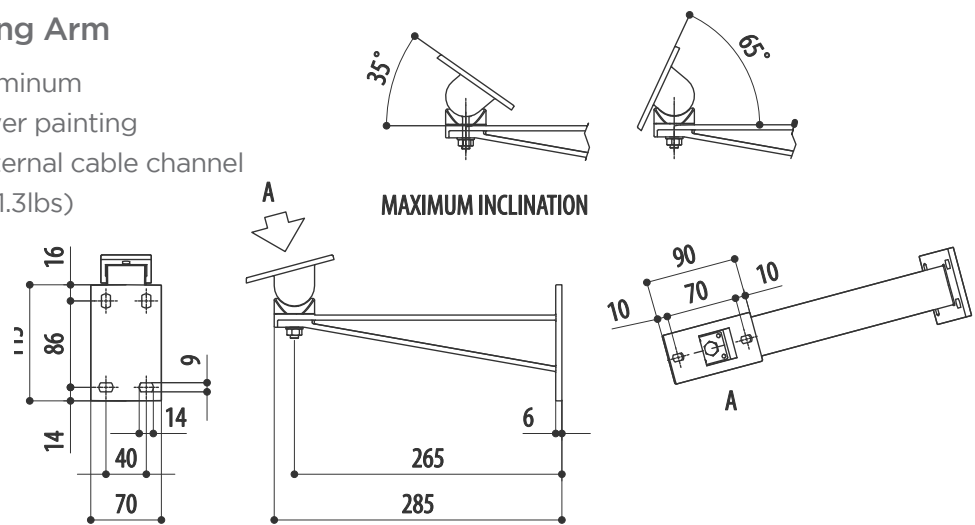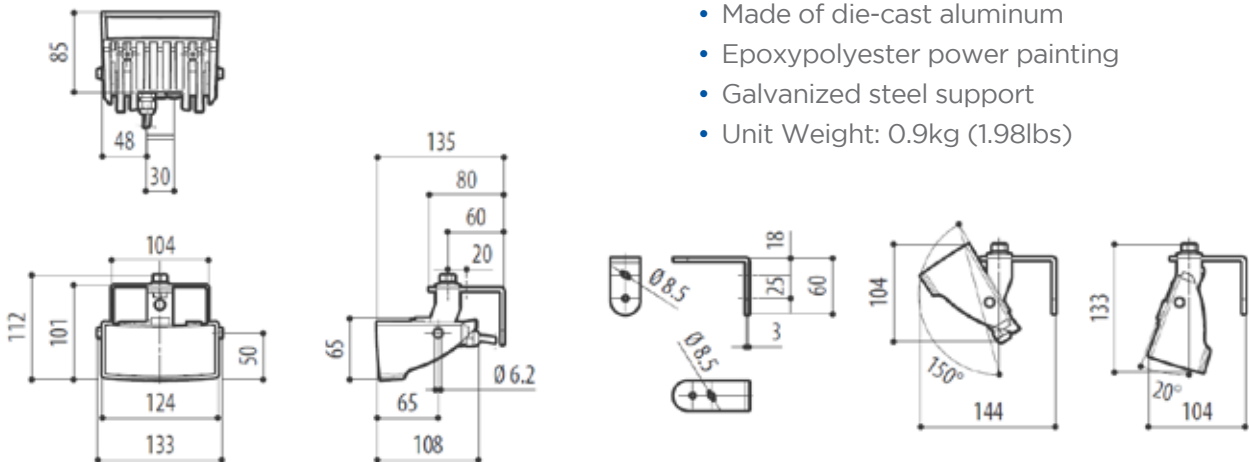
CAMERA HOUSING DIMENSIONS

MOUNTING

Fixed Wall Mounting Arm

- Made of die-cast aluminum
- Epoxypolyester power painting
- Wall bracket with internal cable channel
- Unit Weight: 0.6kg (1.3lbs)

MAXIMUM INCLINATION

Illuminator

- Made of die-cast aluminum
- Epoxypolyester power painting
- Galvanized steel support
- Unit Weight: 0.9kg (1.98lbs)

All units in millimeters.

CONFIGURATION

BASE UNIT	DESCRIPTION
IPC2	High resolution, day/night, network IP camera with IP66 enclosure and mounting hardware
LENS	**Camera Lens Options**
LZ03	3x Zoom, 3.6 to 10mm, FoV = 88 deg (H) x 57 deg (V) @ 3.6mm
LZ04	10x Zoom, 5.1 to 51mm, FoV = 54 deg (H) x 31 deg (V) @ 5.1mm
ETHERNET PORT	**Communications Options**
LC1	1-port 100FX, multimode, 2km, LC interface
CAMERA HOUSING	
H09	IP66 Camera Housing with heater and defroster
HXX	No Housing
CAMERA ARM	
A09	Standard Camera Arm
AXX	No Arm
A13	Wall Mount Bracket for Fixed or No Housing
INFRARED ILLUMINATOR	
XXX	None
L10	10 degree, low power illuminator, 850nm
L30	30 degree, low power illuminator, 850nm
L60	60 degree, low power illuminator, 850nm
H10	10 degree, high power illuminator, 850nm
H30	30 degree, high power illuminator, 850nm
H60	60 degree, high power illuminator, 850nm
CABLE LENGTH	
CL03	3 feet of communications and power cable
CL25	25 feet of communications and power cable
CL45	45 feet of communications and power cable

NOTES: **1. Lenses:** Other lenses types are available and can be selected based on the application requirements. SWI application engineers will determine the best options.
2. Mounting Hardware: All mounting hardware brackets and arms will be dependant on the specific installation. SWI application engineers will determine the best options.

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Systems With Intelligence Inc.
6889 Rexwood Road, Unit #9
Mississauga, Ontario, CANADA
L4V 1R2

Tel: +1-289-562-0126
Fax: +1-289-562-0152

General Inquiries:
info@SystemsWithIntelligence.com

Sales Inquiries:
sales@SystemsWithIntelligence.com

Product Support:
support@SystemsWithIntelligence.com

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