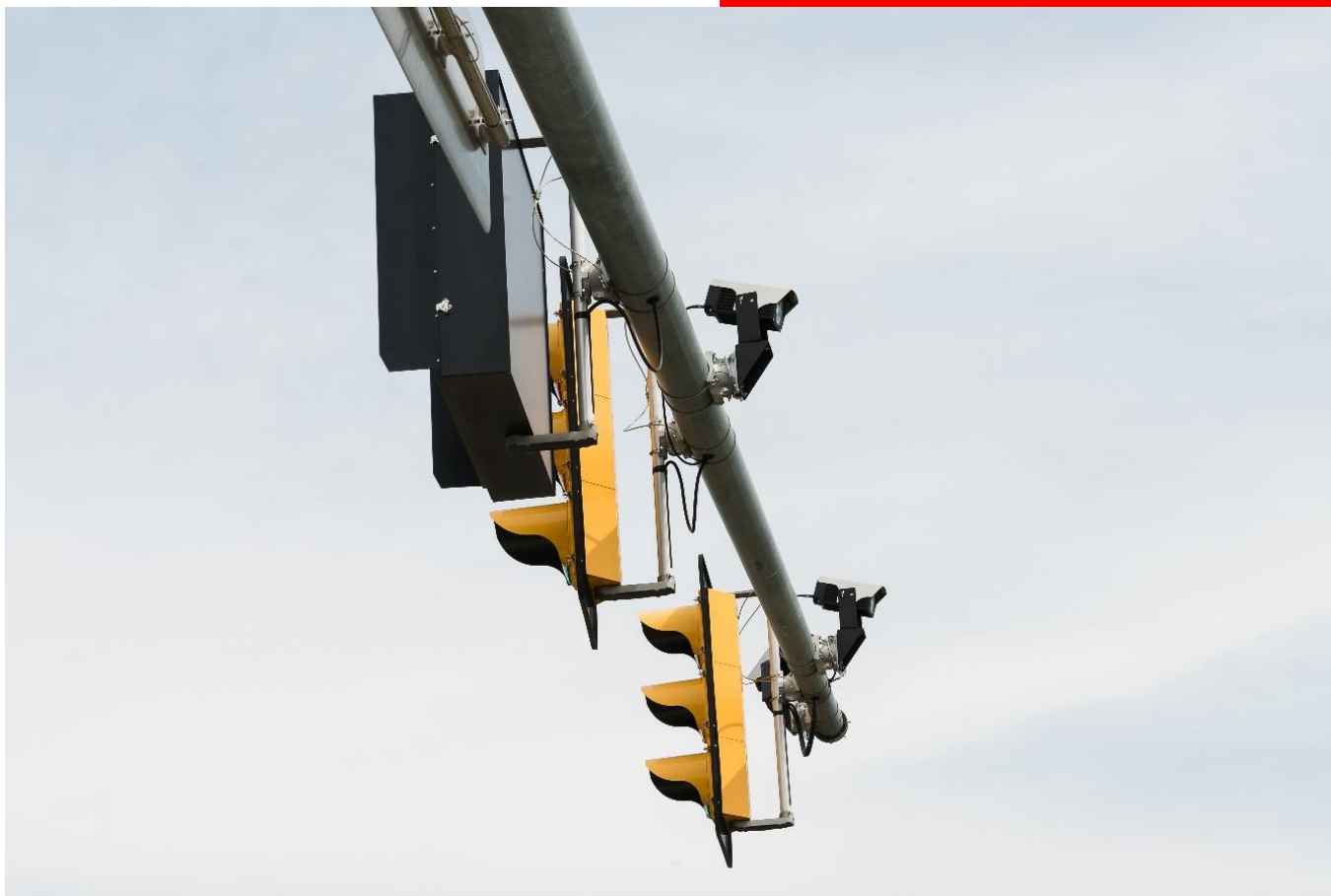


2019

ELSAG Fixed ALPR Specifications



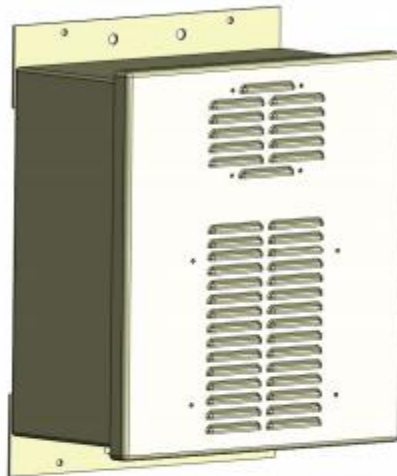
Selex ES Inc., a Leonardo Company
4221 Tudor Lane
Greensboro, NC 27410 USA
Tel +1 866 967 4900
Fax + 1 336 379 7164

Elsag Plate Hunter

FCU Specifications



FCU-900 Field Control Unit



The Elsas FCU (Field Control Unit) serves as a local on site field networking and power substation for up to -4- Elsas AD3 series LPR cameras. These Field Control Units are built for and are suitable for mounting in most exterior environments. All exterior connections to the FCU utilize ruggedized exterior grade connectors and stainless hardware. The FCU is built with welded mounting flanges at the top and bottom for easy installation. The FCU is constructed utilizing a rugged NEMA 4X rated box that comes with a filtered louvered front door, regulated fan and heaters to facilitate the maintenance of desired environmental conditions inside the box.

The FCU contains the following key components necessary to power and network ELSAG surveillance and LPR cameras back to a central server:

- Ruggedized Brick PC
- DC Power Supply
- Network Switch
- External Power Surge Suppression
- Enclosure Environmental Control Hardware



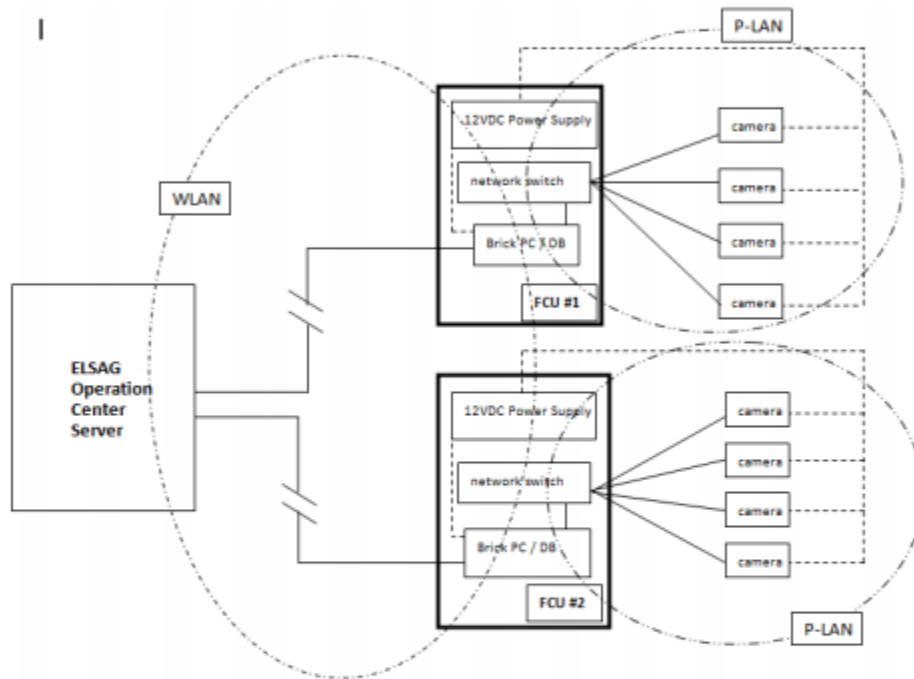
Field Control Unit Specifications

System Component	Specifications
Enclosure	Rating: NEMA 4X Material: .125 Aluminium Finish: Polyester Powder Coated Door: Continuous Hinge w/ AL filled seals Vents: Filtered Louvers Security: 2 Locking Hasp Size: (H x W x D) 18"x16"x8"/ 461mmx410mmx205mm Weight: 50lbs. / 22.7Kg
Brick PC	Processor: Intel Core 2 Duo Processor Memory: DDR2 SODIMM x 1 @ 2GB Ethernet: 10/10/1000Base-TX, RJ-45 x 2 Disk Storage: SATA 100Gb/s HDD bay x 1 Serial: RS232 x 3, RS232/422/485 x 1 USB: USB 2.0 x 4 Operating System: Windows 7 Power Consumption: 3.58A @ 12VDC Operating Temperature: -15C - +65C
Power Supply	Input Voltage: 85 - 265VAC Input Current: 3.6A Output Voltage: 12VDC Single Output Inrush Current: 20A @ 25C cold start Over Current Protection: 105% Over Voltage Protection: 13.8 - 16.8
Network Switch	Type: Switch 8 Port Ethernet Mode: Full Duplex, Half Duplex Transfer Speed: Gigabit Power Consumption: 17.5 watts Input Power: 115 VAC
Surge Suppressor	Input Voltage: 120VAC Input Current: 15A / resettable breaker Suppression AC: 150V RMS clamping 450 joules Outlets: 6 NEMA 5-15RHG
Environmental	Heater: 115VAC @ .86A Fan: 115VAC @ .9A, 110 CFM Control: Adjustable Thermostat
Total FCU Power Requirement	Input Voltage: 115VAC Input Current: 5.36A

- ELSAG / 210003-F - Engineering Day - Field Support
- ELSAG / 210005-H - Engineering Hour - Helpdesk
- ELSAG / 410932 - Strap Hose Clamp 40 IN L
- ELSAG / 413223-500 - Cat5e Ethernet Cable - F3 - 500ft
- ELSAG / 413463 - WIRELESS MODEM AIRLINK RV55 VERIZON ATT
- ELSAG / 413879 - Network Camera VPH V300
- ELSAG / 421966 - VPH FCU 4 Camera Box
- ELSAG / 510322-5.X - EOC Operation Center License 5.X
- ELSAG / 510510 - VPH Annual Camera License YR1



Field Control Unit / Fixed Camera Architecture:



The FCU can manage and power up to -4- ELSAG fixed AD3 series cameras. The brick computer in the FCU maintains the "hotlist" of plates and automatically compares every license plate the connected cameras detected to the list. When there is a match, the software generates an alarm. The onboard software prioritizes the communication of the alarm data and images to the ELSAG Operation Center for immediate dispatching.

The FCU/Brick PC utilizes dual network cards allowing the system to simultaneously communicate with the cameras on a PLAN (private local area network) and the back haul WAN (wide area network) to the ELSAG Operation Center server.

The FCU has an onboard data base and storage capability. It acts as a buffer and manages data and images as they are communicated over the WAN to the central control server. In the event network connectivity is lost to the server, the FCU is capable of storing data and images locally. The amount of local buffer storage is configurable, and could be up to several months if desired. Generally this is dependant on site specifics and agency policies. Once connectivity is restored, the FCU will begin sending data again, and will work to send all backlogged data as bandwidth allows.

F3 Camera Specifications



F3 High Resolution Fixed Camera

(Model: F3POE)



The compact F3 camera integrates all the functionality required to make a complete plate reader system for fixed installations.

The product is suitable for

- road traffic control,
- travel time computation
- speed detection
- law enforcement
- tolling applications

The all-weather IP67 enclosure contains two cameras: a B/W camera (6 IR illuminators), and one color overview camera. F3 units perform on-board image processing (proprietary OCR engine) and provides IP connectivity.

The B/W camera coupled to an IR illuminator is designed to tackle variations of lighting conditions, from night to daylight. For each plate read, the color camera provides the overview image of the vehicle. The F3 camera can be configured to run in either free run or triggered modes. The F3 cameras capture range can be up to 115 feet (35m) depending on focal length and deployment configuration.

ELSAG F3 cameras have solid state memory and are able to buffer read records in case of network outages or latency. Data retention on unsent records is configurable. Camera will automatically send stored data simultaneously with new data as it can when network availability returns.

ELSAG is a product of Selex ES, Inc. a Leonardo Company



F3 Camera Specifications:

System Specification	Description
LPR Camera sensor	Black/White (1280 x 1024 pixels - CMOS 1/1.8")
Color Overview Camera Sensor	Color overview camera (1280 x 1024 pixels - CMOS 1/1.8")
Optics interface	C-mount
Focal Length (Reading camera)	16mm, 25mm, 35mm, 50mm, 75mm
Focal Length (Overview camera)	12mm, 16 mm, 25 mm, 35 mm, 50mm
Typical Camera Range	25ft - 115ft. (7.5m - 35m)
IR Illuminator	740,850,940nm LEDs available, driven with high current pulses synchronized with the camera shutter.
Processing Unit	Processor embedded in the camera housing
Local Non Volatile memory	128GB SSD, optional 256GB
Communication	1000BASE-T, IEEE802.3ab
Network Interface	-2- RJ45 ports, (configurable for dual IP)
Camera Communication Protocol	TCP/IP and UDP/IP; FTP
Triggering	12VDC I/O, or logical signal (ethernet interface)
Overall Dimensions	6.5" x 5" x 14" (165 x 127 x 355mm) (without sun shield)
Weight	8.5lbs. (3.9 kg)
Power	48VDC (POE) 15W
24X7 All Weather	The F3 is able to operate under all lighting conditions, including night-time operation and in all weather conditions.
Operating Temperature	-22F to +149 F (-30 to +65 C)
Operating humidity	10 - 95% not condensing
Housing Protection	IP 67
Housing Construction	Aluminum
Data packet	For each read, the camera generates a data record: <ul style="list-style-type: none"> • Read License Plate String • Date & Time of detection • Camera identifier • JPEG compressed Grayscale and color overlay JPEG of the image of the License Plate Only one read for each vehicle transit is given
OCR Training	The OCR shall be configured for optimal performance for license plates in the region of installation.
State Recognition	Available on request; based on regionalized statistical analysis of traffic flow
Options	Visor, cables, mounting brackets, Encryption,
Certifications	CE Mark