Commander is an IP Communications Center that provides a fully managed 10 port network switch, environmental sensing, RS 232 and RS 485 bidirectional communication ports, interactive alarm in and auxiliary network controlled contacts, and data and video stream management.

- 8 port 802.3at Power over Ethernet (PoE) with full power available at each port with no power sharing.
- 10 port fully managed level 2 network switch with 2 Gigabit ports for Cascade and VLAN configurations
- Temperature, Airflow, Humidity and Power: Voltage and Frequency sensing for Hard Drive and other mission critical component protection.
- Multicasting for transmitting to various locations when decreasing network traffic.
- Operator programmable alerts for power loss conditions. Status view for monitoring conditions in real time.

- Interacts with auxiliary outputs, emails and internal logging. Interfaces with all Pilot video and network software management systems. Programmable interactive alarm in and auxiliary out contacts for universal interfacing with other system components
- Unique PortFlow™ for monitoring stream consistency to assure proper IP video quality
- On board alarm, polling and access log storage for monitoring trends
- User programmable Email alarms and log transfer for instant notification
- RS232 and RS485 bidirectional ports for data communications and network device control

The Commander Series are fully managed 10 port network switches designed to meet the growing requirements of data burdened security systems. With the ability to provide programmable 802.3at PoE power, the Commander C10 PoE series can meet the needs of security system power without the need for a local source. Using separate set ups and operations for IT Directors and Security Directors, the Commander Series eliminates potential conflicts. IT Directors maintain complete control over network interfaces and operations, while Security Directors can rout IP signals in a familiar manner similar to setting up a video matrix switcher. For greater distance applications, Commander's Gigabit ports can be ordered with fiber links for transmission over long distances.

With two Gigabit Ethernet ports Security Directors are assured large data generators such as IP cameras can be

properly routed for viewing and recording. Commander's features move beyond standard network switches by providing hard contact alarm inputs and auxiliary outputs for real world alarm notifications and actions. All Commanders have internal and external environmental and power sensors for monitoring temperature, airflow, humidity and power of external devices. The number of sensors can be expanded using an external USB hub.

All Commander set ups, operations and monitoring are done using a built in web server without the need for external client software. Status and alarm logs are maintained on Commander and can be easily accessed with most computers using most standard web browsers. Commander can be operated to poll sensors monitoring external DVRs, NVRs and other server based devices providing

warnings and alarms set to specific environmental conditions. Alarm alerts and even complete log files can be automatically emailed or transferred to other computers using industry standard FTP (File Transfer Protocol). Commander's Web page can be easily minimized running in the background of any IP Camera, DVR, NVR or security server based system providing operator alerts without the need for extra cost of client software. Commander is compatible with any network security product displaying html web pages.

Front panel LEDs provide immediate status and alarm states for all network, alarm contact and environmental sensors.

Network enabled RS232 and RS485 communication ports compliant to RFC 2217 offering edge device communications and control.

Management

8 port full power 802.3at compliant PoE.

Port Auto Sensing, 8 Ethernet ports 10/100Base T, 2 Ethernet ports 1000Base T, RS232, RS485, 1 USB Port

Auto Negotiation for half and full duplex mode for 10/100/1000BASE-X

IEEE Std. 802.3Z when using optional fiber SFP

IEEE 802.1w Rapid Spanning Tree Protocol

802.1p (QoS) field classification with operator manual QoS priority assignments of up to 4 classifications per 10/100BASE-T ports and up to 8 classifications per 1000BASE-X ports.

IEEE 802.1x for dynamic port based security providing for user authentication per port.

SNMPv1, v2 for providing encrypted network security administrated traffic during SNMP sessions.

IGMP V2 Snooping (multicasting) with active and passive modes. Active mode conforming to RFC2236 for membership query. User configured.

Custom integration to other devices using standard language XML.. Contact factory for specific information.

The ability to provide for private VLAN security and isolation between switch ports or groups of switch ports (can be labeled either as groups or more likely communities) to ensure that users cannot snoop on other users data (traffic)

NTP: Ability to reference to NTP server.

Conformity to SNMPv1, v2c

MDI/MDIX support to eliminate need for cross over cables. Provision of "Forced Mode" to set programming and disable feature per port on 10/100BASE-T ports.

RS232, RS485, RFC 2217 compliant communication ports

>10,000 Event Logs with separate logs for polling, event and user access.

Compliant with afi's Open Path with available API for custom interfacing.

DHCP notification: Programmable email notification of any IP address changes. Keeps you up to date on Commander using DHCP without the need to remove from system or complex external connections.

FEATURE HIGHLIGHTS

Programmable 8 ports 802.3af compliant power. Hi power with up to 30 Watts of maximum power for up to 8 ports without the need to power share

Power management with web server, email, network and logged alerts.

Built in web server with no client required software allows for remotely turning devices on and off in conditions requiring remote device reset.

Wide operating temperature range between -10°C to +60°C

Network switching, alarm and auxiliary functions, environmental sensing for network equipment protection and the ability to speak to both IT and Security Directors make up the Commander product series.

Monitoring of internal Processor, Fan and CPU, temperatures and voltage levels with user programmable email alerts.

Fan Activity Mode regulates fan operation based on temperature requirements extending fan operating life and reducing maintenance costs.

Network Duplicate IP Detection: Commander will alert you when any device on the network is assigned a duplicate IP address, helping to save troubleshooting time and conflicts.

PortFlow™: Ability to monitor individual data and video stream per port to operator assigned quality lev- els. Operator programmable warning and alarm levels with event and poll logging, and email alerts. Unique PortFlow™ allows monitoring of video streams set to specific quality and refresh rate requirements. User ability to define either limit or operational range.

DHCP: allows a network administrator supervise and distribute IP addresses from a central point and automatically sends a new IP address when a computer is plugged into a different place in the network.

External Probes: Environmental and power sensing

probes to provide valuable network equipment. With user ability to define limit or operational range for power probe settings.
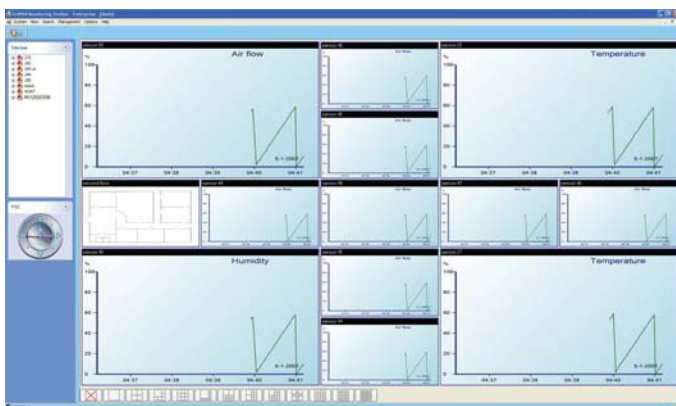
Three main security administration modes: Master/IT/Security with sub security levels of IT Admin with Security Views and Operating Views and Security Admin with IT Views and Operating Views.

Web based Management and Configuration: The system will provide user access to an on-board web server TCP/IP (html pages) for set up, operations and status viewing. Existing programming will be able to be downloaded. New programming will be able to be uploaded. Logs and other information screens will be able to be download in a format compatible with MS Word and Excel.

High Capacity Solid State Memory: Able to record and hold events from 53 days to 3.5 years.

Alert Ports: Ability to define up to four individual IP address and ports for transmitting status and alerts to individual servers on the network.

Pilot Software

Pilot monitors combinations of Scout Environmental Sensing units and Commander Switches to create a seamless integrated data, environmental sensing, alarm, auxiliary and network switch control center. Alarm, Auxiliary, Network connections port flow activity, power sensing and PoE status and sensors can be monitored from various network locations. Responses from one network location can be programmed to trigger auxiliary reactions at other network points.

Pilot can also be used to manage Scout's RS232 and RS485 data ports. All Scout statuses are displayed in a tree with easy to read color status icons. Data from all network locations is contained with a common log for easy data searches and report generation detailing long term histories and trends.

Operating with tool bar alerts Pilot can run in the background of any web based server system, DVR, NVR or even IP Cameras. Pilot can operate with other afi components or solely as a control center. Both can be recorded and stored.

MANAGEMENT SPECIFICATIONS

MAC address notification   Admin notification of users added or removed from the network.

MAC address aging (with Admin ability to set aging

Up to 4K address entries per port as applied to self-learning capacity and table aging.

Port Status
Auto negotiate: Half, Full, Auto for 10/100BASET ports
Port Aging: Applied to complete switch.

QoS
Port priority settings   On: Using 802.1p tags
     Off: Ignoring 802.1p tags

Port Snooping   Provided port has been programmed as part of port snooping

Bandwidth   All
     Unicast
     Multicast
     Broadcast
     Programmed bandwidth limit

Port Packet Priority   Off
     QoS priority
     Operator settings per port priority

Port Monitoring   Ingress and Egress

Port Trunking   Provided port has been assigned as to port trunking

PortFlow™   Real time monitoring of all port functions for quickly determining problem areas and preventing unauthorized port connections and device changes.

PROTOCOLS: 802.1p
     802.3
     802.3u
     802.3x
     802.1d
     802.1w
     802.1s
     802.1x
     802.3ab
     802.3ac
     RMON 1,2,3,9
     802.3Q
     802.3
     802.3af, 802.3at

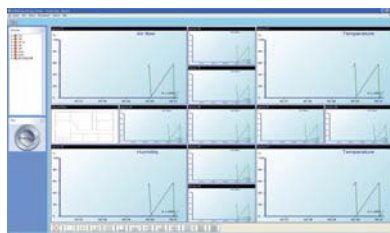RFC2217 for external RS 485/RS232 communication port interface

RFC2236 for active mode membership query

Temp Airflow Humidity Probe

Pilot Software Graphical Display

Power Probe

OPTION	SPECIFICATIONS
P-TA: Temperature Airflow sensor probe	
P-TAH Temperature Airflow Humidity probe	
Dimensions	2.5" (D) x .875"(H) x 0.4"(W)
	63.5mm (D) x 22.2mm x 10.2 (W)
Operating Temperate	-40°C to 85°C (-40°F to 185°F)
Operating Humidity	0% to 95% RH Non-Condensing
Weight (approx)	0.5 Ounces 14 grams
Range Temp:	0°C to 70°C (32°F to 158°F)
Airflow	Relative reading Detects 15% over full temperature range
Humidity (P-TAH only)	0% to 100% Relative Humidity
Connector	Mini-USB type B 5pin Max 26'
	For longer distances, contact factory.
Data Transfer Rate	12M bit/sec (full speed USB)
Certifications:	FCC: CFR Title 47, Part 15 Class A
	CE: EN55022 Emissions / EN55024
	Immunity UL/CE: IEC 61010
P-VFP specifications:	
Physical dimensions:	3.4" X 2.12" X 1.5"
Connectors:	5 pin MINI-B USB connector AC power
input:	IEC 320-1 3-pin
AC power output:	IEC 320-2 3-pin
Electrical specifications:	
AC voltage:	0-265VAC RMS
AC Frequency:	0-400Hz
Power:	0-2500 W
Temperature:	-40°C to +70°C
Humidity:	0 to 95% relative humidity

Features

STATUS INDICATORS

LEDs (per port)

10/100BASE-T	Link and Activity
1000BASE-X	Link and Activity
Power:	No power, normal power, power below acceptable level, temperature alarm
Auxiliary:	Off, On
Sensor:	Alarm - normally open or normally closed

CONNECTIONS

Ports:

10/100BASEe-T	(8) RJ45 Configurable Speed & Duplex
1000BASE-X	(2) SFP Socket 1000BASE ONLY For use with afi approved devices conforming to Multiple Source Agreement (MSA) Small form Factor Pluggable (SFP) (SFP modules required for GigE operation)

SFP Plug-ins:
SFP-SX:

Wavelength:	850nm
Output Power:	-9.5 to -4 dBm
Sensitivity:	<-17dBm
Distance:	550m (50/125 um) 220m (62.5/125 um)

SFP-LX

Distance:	10 km
Wavelength:	1310 nm FP
Output Power:	-9.5 to -3 dBm
Sensitivity:	< -21dBm

SFP-ZX

Distance:	70 km
Wavelength:	1550 nm DFB
Output Power:	0 to +5 dBm
Sensitivity:	-23 dBm

RS232:	DB9 Male DTE connector
RS485:	RJ12 Female connector
Sensor Probes:	USB A connector using proprietary afi communications protocol
Alarms	5 Pin Detachable Terminal Block
Alarm In:	Programmable for NO or NC
Aux Out:	Form C 100V Max @ 0.5A

PoE POWER

PoE Rating:	802.3at PSE 30 Watts

Individual Class power rating at the PD:

Class 0	0.44W to 12.95W
Class 1	0.44W to 2.84W
Class 2	3.84W to 6.49W
Class 3	6.49W to 12.95W
Class 4	12.95W to 25.5W

PHYSICAL SPECIFICATIONS

Dimensions:	1.75" (H) x 17.10" (W) x 1.7.0" (D)
Weight:	5 lbs

ENVIRONMENTAL SPECIFICATIONS

Temperature:

Operating	-10°C to 60°C
Storage	-30°C to 85°C

Humidity:

Operating	0-95% Non-Condensing
Storage	0-95% Non-Condensing

Electromagnetic Compliance

FCC:	CFR Title 47, Part 15 Class A

Safety

CE Mark Commercial:	EN55022 Emissions/EN55024 Immunity

OPTIONS

Probes

P-TA:	Temperature Airflow Probe
P-TAH:	Temperature, Airflow, Humidity Probe
P-VFP:	Voltage/Frequency/Power

Software

Pilot CS:	Client Multiple Unit Management

INCLUDED ACCESSORIES

Resource CD
Power Cord
5 Pin Screw Terminal Block X 2
Mounting Brackets & Hardware X 2

Open Path

afi
american fibertek