

## Cloudberry 8 可管理端口 航空专用吉比特 PTP 以太网交换机 CM-1600 系列

### Features

- 8 x 10/100/1000BASE-TX ports
- PTP v1 or v2 Grand Master Clock
- PTP v1 or v2 Transparent Clock
- Built-in GPS receiver
- Accuracy < 50 nanosecond
- Network redundancy: OnTime-Ring- or MSTP/RSTP/STP protocol
- Network management: Web, telnet, CLI and SNMP v1/v2/v3 with RMON
- Multicast filtering: IGMP snooping or static multicast filters
- IEEE802.1Q VLAN
- Event notification: through Syslog, Email, and SNMP trap
- Wide operating temperature: [-40°F to 158°F] / [-40°C to 70°C]
- 28VDC power input



The CM-1600 is a reliable and accurate PTP Grand Master Clock fulfilling IEEE 1588 Std 2002 (v1) or IEEE 1588 Std 2008 (v2). The Grand Master Clock will be in passive mode and the switch will act as a PTP Transparent Clock if a better Grand Master Clock alternative is available in the network. The unit contains a built-in GPS receiver.

The switches in the CM-1600 series offer full management based on HTTP, telnet, CLI or SNMP. Network Redundancy is achieved based on the OnTime-Ring- or MSTP/RSTP/STP (IEEE 802.1s/w/D) protocol. The switch is designed for aircraft environments. The switch offers a wide operating temperature range: [-40°F to 158°F] / [-40°C to 70°C].


Ruggedized military approved connectors are used for both the Ethernet ports and the power connector. A connector for general purpose IO interface is available for future use.

## Connectors

The CM-1600 switch is configured with 11 connections. Power input (J11), GPS antenna interface (J10) GPIO interface (J9) - TBD and 8 x 10/100/1000BASE-TX Ethernet ports (J1-J8). The following sections provide the mating connector and cable pin-outs for each of the connectors, which are located on the front of the unit.

### Power input – J11

Pin	Description
1	Negative supply voltage
2	Power supply, +28VDC
3	Chassis ground



Connector: Amphenol M83723/72R1203N, receptacle with pins  
Mating connector: Amphenol M83723/75R1203N, straight plug with sockets

### GPS antenna interface– J10

Pin	Description
1	RF + 5VDC
2	Chassis ground

Connector: HUBER-SUHNER TYPE: 24\_QN-50-2-3 (female)  
Mating connector: HUBER+SUHNER TYPE: 11\_QN-XXX (male) – depends on cable type

### Ethernet – J1-8

Pin	Description
A	BI_DB-; orange, pair 2
B	BI_DB+; white/orange, pair 2
C	
D	BI_DD-; brown, pair 4
E	BI_DD+; white/brown, pair 4
F	
G	BI_DA-; green, pair 3
H	BI_DA+; white/green, pair 3

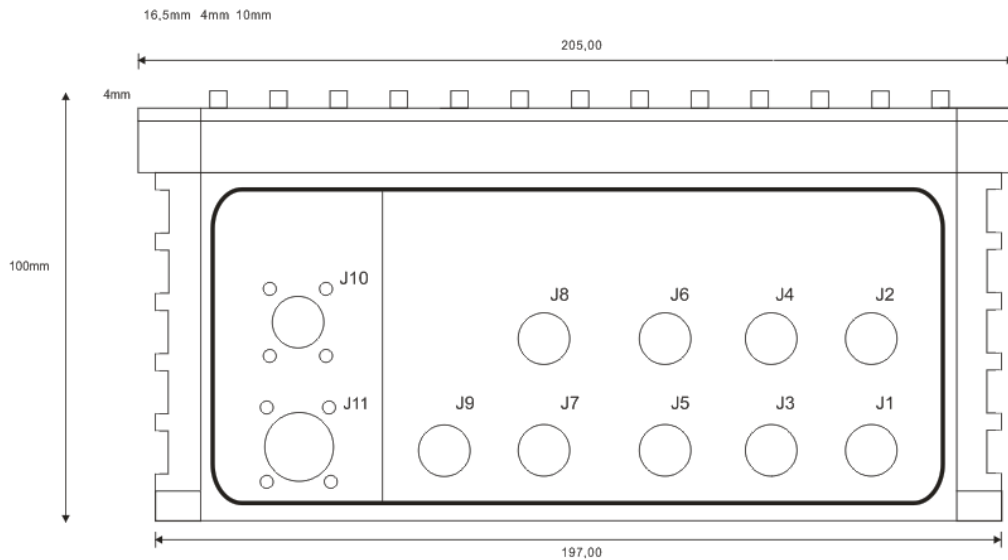
# OnTime networks

J BI\_DC-; white/blue, pair 1  
 K BI\_DC+; blue, pair 1  
 L  
 M  
 N  
 P



Connector: Amphenol Terrapin SCE-B-76A07-14SN-001-CPD  
 Mating connector: Amphenol Terrapin SCE-B-01K07-14PN (Snatch)

## Dimensions



## Specifications

<b>Ethernet LAN ports</b>	
10/100/1000 BASE-TX Amphenol	8, Amphenol M83723/72R1203N
Terrapin ports with Auto MDI/MDIX	
<b>GPS</b>	
GPs interface	1, HUBER-SUHNER TYPE: 24_QN-50-2-3 (female)
<b>Technology</b>	
Standards	IEEE 802.3 for 10Base-T IEEE 802.3u for 100Base-TX and 100Base-FX

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# OnTime

## networks

	<p>IEEE 802.3z for 1000Base-X          IEEE 802.3x for Flow control          IEEE 802.3ad for LACP (Link Aggregation Control Protocol)          IEEE 802.1D for STP (Spanning Tree Protocol)          IEEE 802.1p for COS (Class of Service)          IEEE 802.1Q for VLAN Tagging          IEEE 802.1w for RSTP (Rapid Spanning Tree Protocol)          IEEE 802.1s for MSTP (Multiple Spanning Tree Protocol)          IEEE 802.1X for Authentication          IEEE 802.1AB for LLDP (Link Layer Discovery Protocol)          IEEE 1588 Std 2002          IEEE 1588 Std 2008</p>
MAC table	8192 MAC addresses
Priority queues	4
Switch properties	Store-and-forward and full wire speed on all ports
Security Features	<p>Enable/disable ports, MAC based port security          Port based network access control (802.1x)          VLAN (802.1Q ) to segregate and secure network traffic          Radius centralized password management          SNMPv3 encrypted authentication and access security</p>
Network redundancy	<p>OnTime-Ring          STP          RSTP          MSTP</p>
Management	HTTP, telnet, CLI and SNMP v1/v2/v3 or Windows Open Vision
Other protocols	<p>IGMP snooping (up to 1024 multicast filters)          Static multicast filter setting          Port rate limiting          TOS/Diffserv supported          Quality of Service (802.1p) for real-time traffic          VLAN (802.1Q) with VLAN tagging and GVRP          Port configuration, status, statistics, monitoring, security</p>
RS232 console ports	<p>RS-232 in Terrapin connector – service ports          Baud rate setting: 9600bps, 8, N, 1</p>
<b>Power</b>	
Input Power	28VDC DC inputs. 22-32VDC on 3-pin connector (Amphenol M83723/72R1203N connector)
Power Consumption (Typ.)	20 Watts (typical)
Overload Current Protection	Yes
Reverse Polarity Protection	Yes
<b>Physical Characteristic</b>	
Enclosure	IP65, Machined aluminum case, EN AW-7075-T6
Dimension (W x D x H)	205mm (W) x 143.5 (D) x 100.0(H)mm; 8,19 x 5.65 x 3,94 inch.

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# OnTime

## NETWORKS

Weight (g)	<2000 g
<b>Environmental</b>	
Storage Temperature	[-40°F to 185°F] / [-40°C to 85°C]
Operating Temperature	[-40°F to 158°F] / [-40°C to 70°C]

### Ordering information

Product	
CM-1608F0-GMC-AERO	Managed Aircraft Ethernet switch with PTP GMC and TC support, 8 x 10/100/1000BASE-TX (Terrapin)
CM-1608F0-TC-AERO	Managed Aircraft Ethernet switch with PTP TC support, 8 x 10/100/1000BASE-TX (Terrapin)
CM-1608F0-AERO	Managed Aircraft Ethernet switch, 8 x 10/100/1000BASE-TX (Terrapin)
ACC-SCE2SCE	SCE2-B-01K07-14PN each end, Cat 5e cable 2m length
ACC-SCE2RJ45	SCE2-B-01K07-14PN to RJ45, cat 5e cable 2m length
ACC-CAB-N_10	GPS cable 10 meters with female N connectors
ACC-CAB-N-C	GPS cable with female N connector and female rugged 11_QN male connector
ACC-ANT-N	GPS antenna with male N connector
ACC-SUR_ARRESTOR	Surge arrestor with female N connector

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