Overview

Description

The Opus A3F and A3S Topcon display units are cost-efficient, rugged operator control panels for use on heavy-duty vehicles and work machines that must operate outdoors in harsh conditions. They are fully equipped with an encoder, three hard and eight soft-function keys, integrated buzzer, RS232 and USB ports, and CAN bus. The A3F (full-featured) unit has analog/digital inputs, digital outputs, Ethernet and video connections for use with a camera to monitor process operations.

Model A3F

Model A3S

Features

Feature	A3F	A3S
Mounting: Stand-alone, dashboard, or pedestal mount; landscape only orientation.	Yes	Yes
Display: 109 mm (4.3 in) diagonal color	Yes	Yes
Analog resistive touchscreen	Yes	No
Backlit keys: 8 softkeys, 3 hardkeys, 1 encoder w/pushbutton	Yes	Yes
Ambient light sensor	Yes	Yes
LEDs: 1 multicolor, 3 status	Yes	Yes
CAN bus: 2	Yes	Yes
USB port: front panel	Yes	No
USB interface: back panel, main connector	Yes	Yes
RS-232 interface: 1	Yes	Yes
Inputs: 4 analog/digital	Yes	No
Outputs: 3 digital	Yes	No
Ethernet interface: 1	Yes	No
Integrated buzzer	Yes	No
Video input: 1	Yes	No

Ratings

Electrical Parameters

Operating voltage	8 to 36 Vdc
Operating current	500 mA max **- Note:** at 12 Vdc
	180 mA (on) **- Note:** at 24 Vdc
	70 mA (low power) **- Note:** at 24 Vdc
Overvoltage tolerance	48 V **- Note:** for 2 minutes
Inverse polarity protection	up to -48 V

Environmental Ratings

Operating temperature	-30 to 65 °C (-22 to 149 °F)
Storage temperature	-40 to 85 °C (-40 to 185 °F)
Ingress protection	IP67 and IP65 **- Note:** True outdoor
Vibration	5 G **- Note:** to 2000 Hz, 10x per axis
Mechanical shock	30 G **- Note:** 11 ms, 10x per axis

Properties

Display

Display type	Sunshine-readable thin film transistor (TFT) color graphic LCD
Resolution	480x272 pixel
Viewing angle	±50°
Size	109 mm (4.3 in) **- Note:** Diagonal measure
Construction	Light gray plastic housing with black rubber frame, glass front with anti-reflective foil surface
Touchscreen	Analog resistive touchscreen **- Note:** Model A3F only

Processor and Memory

Processor	32-bit, 532 MHz, I.MX35.
Memory	128/256 MB DDR2; 512 MB / 1 GB Mass Storage; 32 kB serial EEPROM
Operating system	Embedded Linux
Programming	Topcon Projektor-Tool for Windows NT/2000/XP supporting CANopen, Generic driver, CANfreestyle, J1939

Interfaces

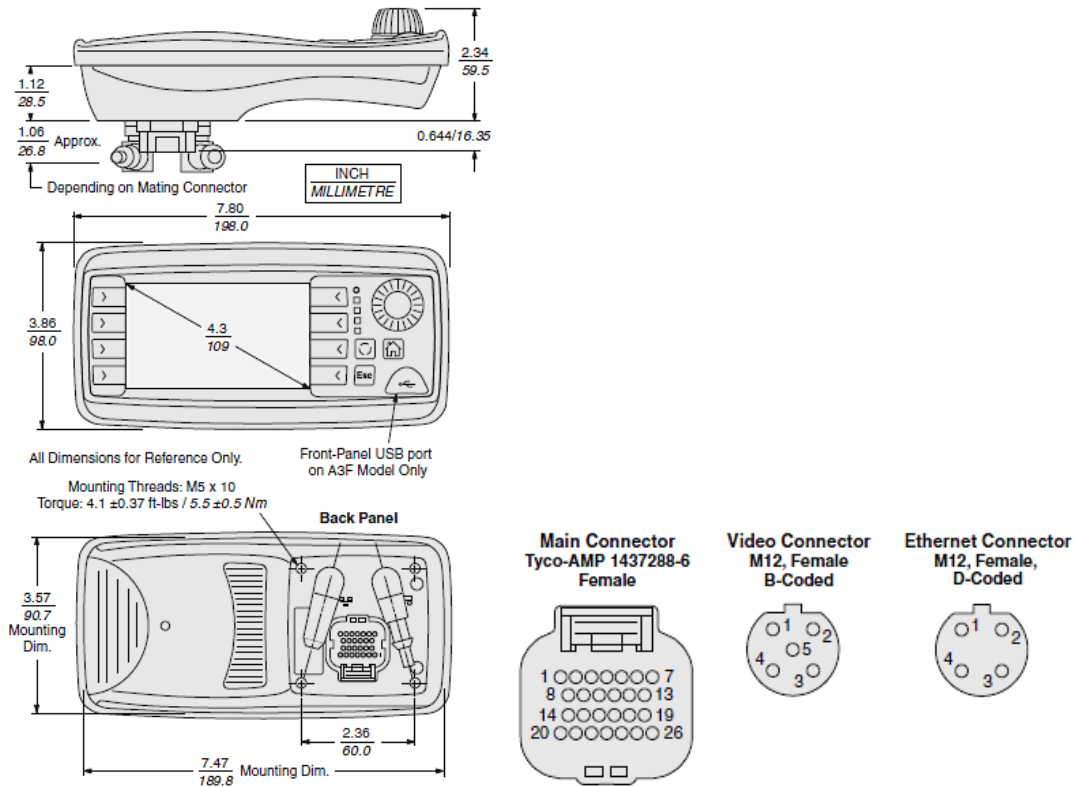|	
CAN ports	CANbus 2.0 B active/ISO 11898 **- Note:** Quantity 2
RS-232	RxD, TxD, GND only, EIA-level
USB	USB 2.0 full speed on main connector. USB 2.0 high speed on front. **- Note:** Model A3F only
RS-232	RxD, TxD, GND only, EIA-level
Ethernet	10/100 Mb **- Note:** Model A3F only
Video	Analog video input **- Note:** Model A3F only

Keypads

Left keypad	Four soft keys with white arrow symbols on a black base with blue backlighting
Right keypad	Four soft keys plus three hard keys for "ESC","Home" and "Settings"
Status LEDs	Three status LEDs and one multi-color LED
Light sensor	Light sensor embedded in keypad automatically adjusts backlighting to level of ambient light
Encoder	Electromechanical with mechanical detents and push mechanism rated for 1-million activations without electronic failure

Other Properties

Connectors	Main connector: Tyco-AMP Super Seal, 26-pin Main connector: USB on main connector USB A on front panel **- Note:** Model A3F only Ethernet: 4-pole round connector, M12, D-coded **- Note:** Model A3F only Video: 5-pole round connector, M12, B-coded **- Note:** Model A3F only
Certification	e1 and CE; ISO 15003; ISO 16740-4 Climatic Loads C

Dimensions and Installation

All Dimensions for Reference Only.

Mounting Threads: M5 x 10
Torque: 4.1 ±0.37 ft-lbs / 5.5 ±0.5 Nm

Front-Panel USB port on A3F Model Only

Back Panel

Main Connector Tyco-AMP 1437288-6 Female

Video Connector M12, Female, B-Coded

Ethernet Connector M12, Female, D-Coded

Mounting: Can be mounted in landscape mode; stand-alone or on dashboard. To mount stand-alone, use the 4-bushing M5 of the rear panel with the A3 adaptor cover Part #4000405. To mount on dashboard use Part #4000406.

Note: Model A3F shown. Dimensions, mounting and overall form/appearance apply to both A3F and A3S models (except as noted).

To Order

Model A3S (Standard Model): Part No. 4000400
Model A3F (Full-Featured Model): Part No. 4000401
Power Cable: Part No. 4000403
Video Cable: Part No. 4000411
Mounting Kit: Part No. 4000405
Dashboard Mounting Kit: Part No. 4000406
Connector Plug: Part No. 4000415
Socket Contacts: Part No. 4002658 (50 pc)
Cavity Plugs: Part No. 4002659 (50 pc)
Software License Key: Part No. 4100098

Note: Topcon displays can be programmed without a software license in Demo mode only. The software (Topcon Toolchain) can be downloaded free from the HydraForce Electronics Portal but the software license key must be purchased.