New Interface and Power Supply Modules
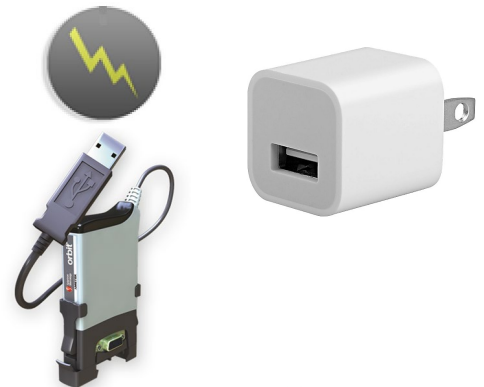
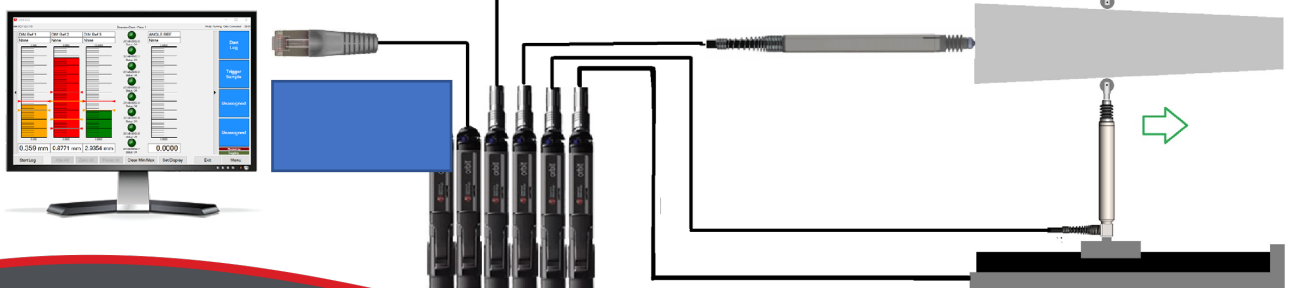## Dynamic Orbit® Ethernet Interface Module 2.0

- ➤ New, lower cost Ethernet Interface Module
- ➤ Connect up to 200 Orbit Modules
- ➤ **Dynamic Capability** 3906 readings per module per second. (Previous ETHIM models did not have Dynamic capability)
- ➤ Requires Orbit Drivers Version XXX or later

Power Supply Interface Module for USB Port (PSIM Lite)

- ➤ **Lower cost** than standard PSIMs
- ➤ PSIM Lite plugs into USB port in computer or wall charger
- ➤ Powers up to 5 modules
- ➤ Powers new ETHIM 2.0, RS232 IM, Wireless Interface Module
- ➤ Use for smaller gauging solutions

ETHIM 2.0 is used to output readings. PSIM Lite powers the stack with voltage from USB port

Encoder Interface Module

Gauging application where taper is checked dynamically

Precision. Quality. Reliability

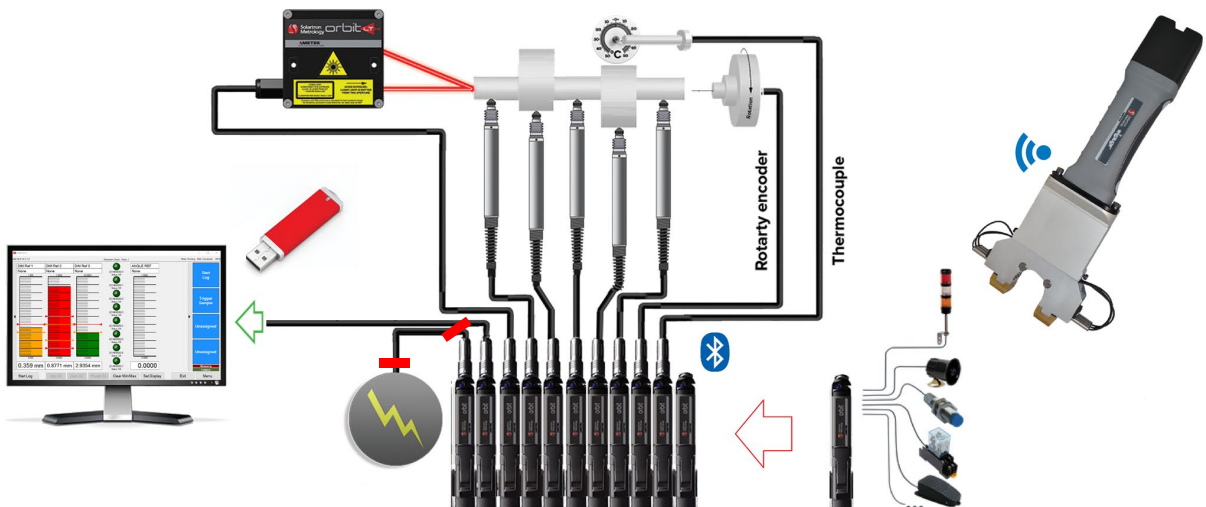www.solartronmetrology.com • sales.solartronmetrology@ametek.com

Ethernet Interface Module (ETHIM 2.0)

- The New Ethernet Interface Module carries all the same capabilities as an Orbit USB Interface Module, including Dynamic
- With USB, Windows can sometimes interfere with optimum USB port performance
- No issues with Ethernet connection. Connect over networks and long distances.
- **Dynamic Capability** 3906 readings per module per second.

Note Reading rates over Ethernet can be influenced by the quality of the connection and other Ethernet traffic.

Mode	**NEW ETHIM 2.0**	Old ETHIM
Network Speed	Low, High, Ultra High	Low, High
Basic	X	X
Difference	X	X
Buffered	X	X
Readburst	X	X
Dynamic	X	
Dynamic 2	X	
Max Read Rate per module	3906 Readings per second	1000 Readings per Second

The new ETHIM 2.0 will connect with all Solartron Modules and Sensors

Orbit Modes

➢ The Orbit Network has three different levels of output speed, and several different reading modes. The new ETHIM 2.0 is capable of reading at all these levels.
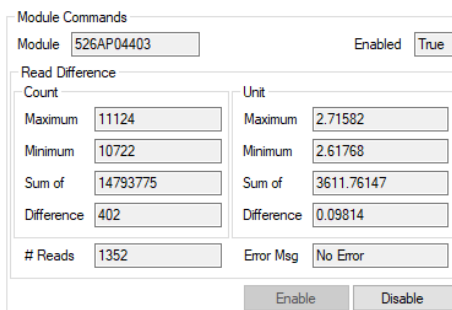
ORBIT SPEEDS (For ETHIM 2.0 and USBIM)

➢ Low Speed: 187.5 kb/S
➢ High: 1.5 MB/s
➢ Ultra High: 2.25 MB/s (Run Dynamic Modes at this rate)
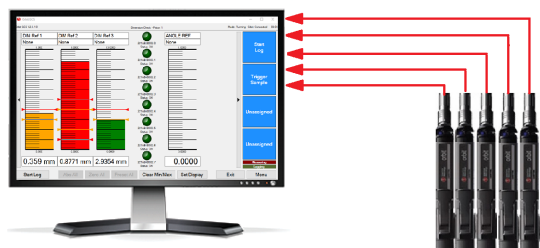
READING MODES (Consult Orbit 3 Manuals for full details)

➢ STATIC: Standard Measurement Mode where one module is queried at a time. Slower but simple to set up.
➢ DYNAMIC: High Speed Synchronized readings for up to 31 modules.
➢ DYNAMIC 2: Hi Speed Synchronized readings, for up to 200 modules. Use Ultra High Speed mode. ETHIM 2.0 and USBIM Only.
➢ READBURST: One high speed *synchronized* reading of all modules on network.
➢ BUFFERED: Mode where up to 3000 readings are stored in module, then extracted on command
➢ DIFFERENCE MODE: Maximum and Minimum readings, along with difference are stored in module then extracted with command
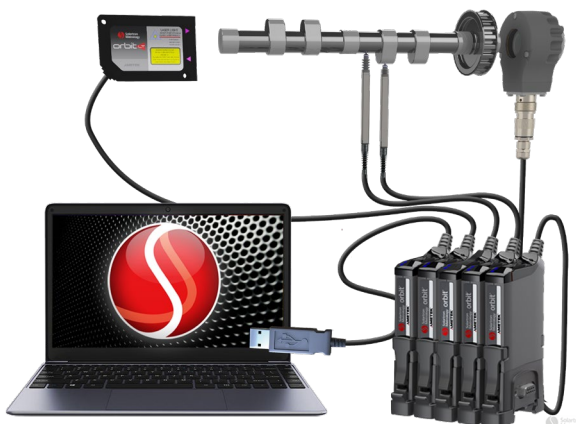

*A readout of **Difference Mode**, via the Orbit Library Test Program. Both Maximum and Minimum readings saved.*

Static Mode (above) vs. Read Burst Mode (below).   With Read Burst, readings from all modules sent simultaneously
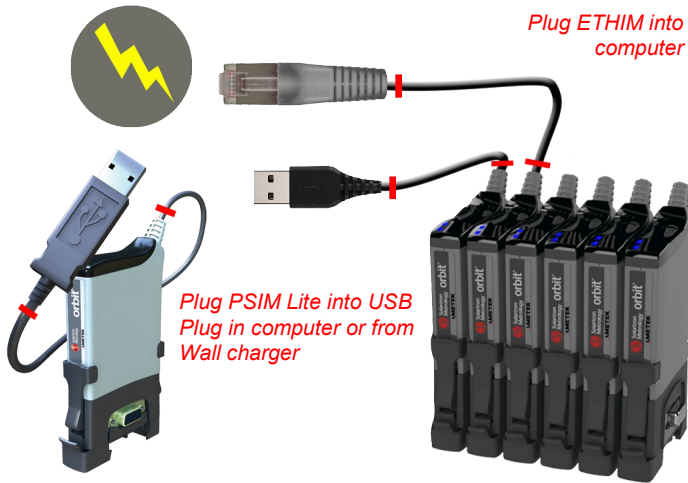

*Sample of **Orbit Dynamic 2** Mode. Readings triggered by Rotary Encoder into Encoder Interface Module. Readings output into computer via ETHIM 2.0.*
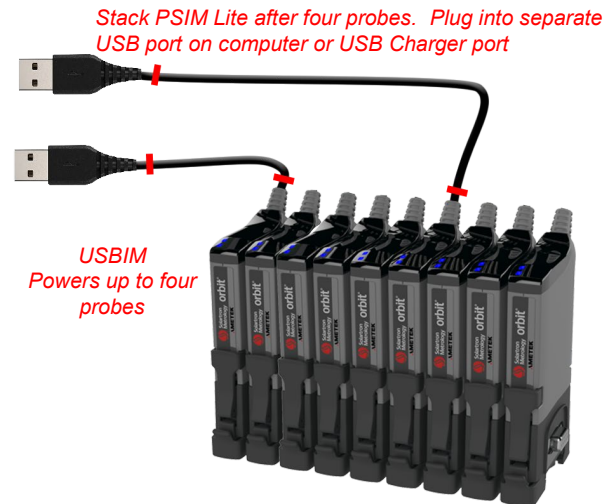
PSIM Lite

➤ The lower cost PSIM Lite is for applications where a standard PSIM might be overkill
➤ Plug into a USB Computer Port or Wall Charger and power up to five modules
➤ Minimum of 5 Volts from port. (Note, turn off powersaver modes if running with laptop)

ETHIM 2.0 and PSIM Lite Example

Plug ETHIM into computer

Plug PSIM Lite into USB Plug in computer or from Wall charger

With PSIM Lite, power the ETHIM 2.0 and four additional modules. (Note, you will need additional PSIM to power lasers)

USBIM and PSIM Lite Example

Stack PSIM Lite after four probes. Plug into separate USB port on computer or USB Charger port
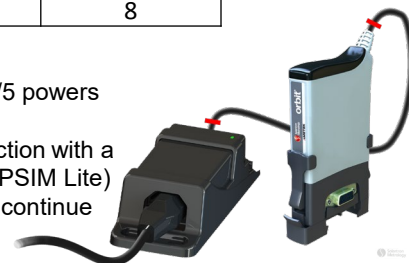
USBIM Powers up to four probes

The USB Interface Module can power up to four Orbit Modules, and the PSIM Lite can power up to five modules, meaning you can run a gauge with **up to nine sensors**, all from USB power ports

Power Supply Interface Module Overview

Type of Power Supply Module	Power Input	Number of Orbit Modules Powered	
		Probes, Linear Encoders, Interface Modules, and 3rd party Sensor Modules	**Lasers**
PSIM Lite	**5V from USB Port**	**5**	**0**
AC PSIM	100 to 240 Volts AC	31	0
AC PSIM/24/5	100 to 240 Volts AC	31	20
Aux AC PSIM/24	101 to 240 Volts AC	0	8
DC PSIM	10 to 30 Volts DC	31	0
DC PSIM/24/5	10 to 30 Volts DC	31	20
Interface modules with power output			
USB Interface Module	5V from USB Port	4	0
Protocol Interface Module	10 to 30 Volts DC	10	8

➤ Each PSIM includes a T-Connector
➤ Probes and Modules require 5V of power. Lasers require 24V of Power. PSIM/24/5 powers both types through different pins on Orbit connection
➤ "Auxiliary AC PSIM/24" will not power Orbit 3 modules. This is to be used in conjuction with a standard PSIM or an Interface Module that can power modules. (USB IM, PIM, or PSIM Lite)
➤ If Orbit stack has more than 31 modules, you can add PSIM onto end of stack and continue
➤ AC Power Supplies available with US, UK, European, China, and other style plugs
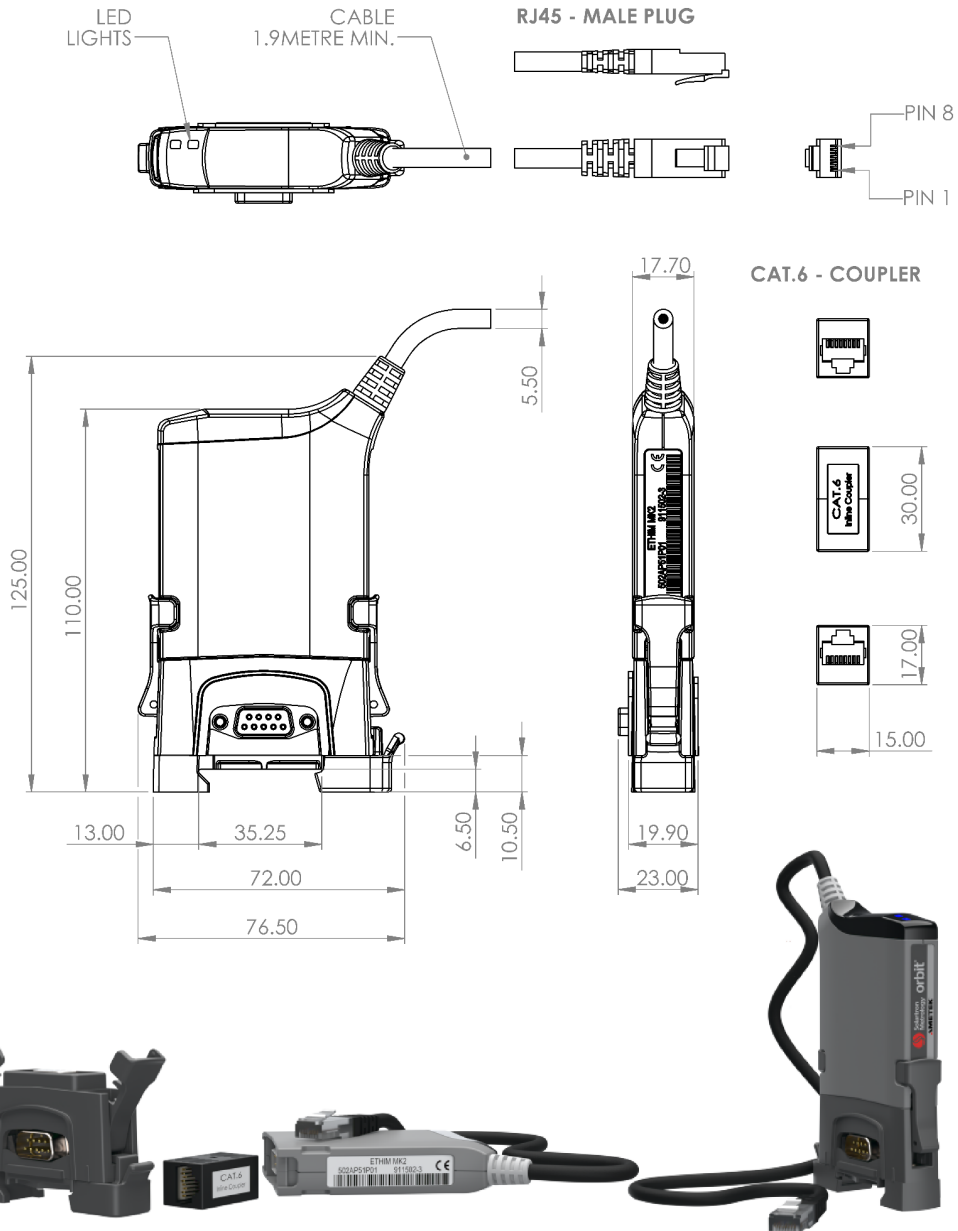
Technical Specifications

Performance	ETHIM 2.0
Interface	Ethernet
Data Rate MBps	10/100
No of Modules	200
Orbit Measurement Modes	All
Readings per second	3906
Nominal Power Requirement mA@ 5V (no load)	200
Cable length (m) (Note 1)	2
Connector	RJ45 Male
Performance (Note 2)	**PSIM LITE**
Output (VDC)	5
Output Current (mA)	360
Supply Voltage (USB)	5
Supply Connector	USB A Latched
Environmental	
Sealing	IP43
Storage Temperature (°C)	-20 to 70
Operating Temperature (°C)	0 to 60
EMC (Immunity)	(BS) EN 61000-6-2:2005
EMC (Emissions)	(BS) EN61000-6-3:2007/A1:2011
EMC (Immunity/Emissions)	(BS) EN61326-1:2013

Note1: Unit supplied with adapter to facilitate adding Ethernet extension cable if required
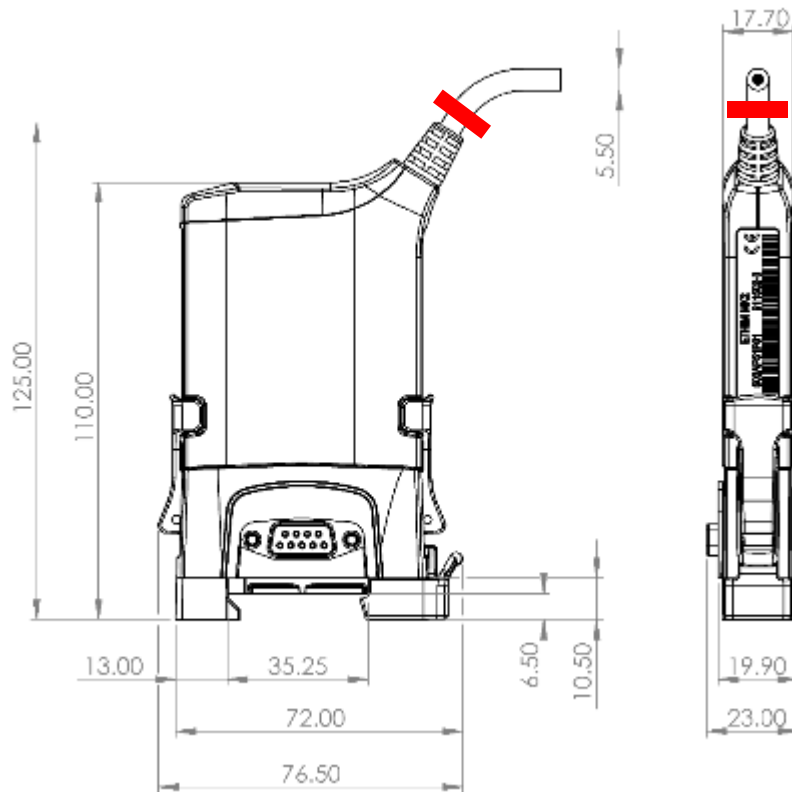Note 2:Performance is dependent on the power source.

Note Reading rates over Ethernet can be influenced by the quality of the connection and other Ethernet traffic.

Dimensions ETHIM

LED LIGHTS

CABLE 1.9METRE MIN.

RJ45 - MALE PLUG

PIN 8

PIN 1

17.70

CAT.6 - COUPLER

5.50

125.00

110.00

CAT.6 Inline Coupler

30.00

17.00

15.00

13.00   35.25

6.50   10.50

19.90

72.00

23.00

76.50

	DRAWING NUMBER	TITLE	E.D.C.R.	TBA
Solartron Metrology STEYNING WAY • BOGNOR REGIS • SUSSEX • ENGLAND • PO22 9ST	540002-206	ETHIM MK2	ISSUE	A

SOLARTRON PURSUES A POLICY OF CONTINUOUS DEVELOPMENT. SPECIFICATIONS IN THIS DOCUMENT MAY THEREFORE BE CHANGED WITHOUT NOTICE. DIMENSIONS ARE NOMINAL AND SPECIFIED IN MILLIMETRES

Dimensions PSIM LITE

Note PSIM includes integrated (Fixed T_CON).

The unit is fitted with a USB Type A connector

WorldWide Sales Offices

UK Head Office and Factory
Solartron Metrology
Steyning Way
Bognor Regis
West Sussex
UK, PO22 9ST
Tel: +44 (0) 1243 833333
Fax: +44 (0) 1243 833332
Email: **sales.solartronmetrology@ametek
.com**

France
Ametek SAS
Solartron Metrology Division
Rond point de l'epine des champs
Buroplus Bat D
Elancourt
78990
France
Tel: +33 (0) 1 30 68 89 50
Fax: +33 (0) 1 30 68 89 99
Email: **Info.solartronmetrology@ametek.fr**

Germany
Ametek GmbH
Solartron Metrology Division
Rudolf-Diesel-Strasse 16
40670 Meerbusch
Tel: +49 (0) 2159 9136 500
Fax: +49 (0) 2159 9136 505
Email: **vertrieb.solartron@ametek.com**

China
Ametek Commercial Enterprise (Shanghai)
Co., LtdPart A1, A4 2nd Floor
Building No 1, No 526 Fute
3rd Road East
Shanghai
Pilot Free Trade Zone
200131
China
Tel: +86 21 5763 2509
Fax: +86 21 5866 0969 Ext. 261/262
Email:
china.solartronmetrology@ametek.com

USA
Solartron Metrology
915 N. New Hope Road, Suite C
Gastonia, NC 28054
Tel: +1 800 873 5838
Email: **usasales.solartronmetrology@am
etek.com**

Japan
Ametek-Japan
Solartron Metrology Division
Tokyo Office
Shiba NBF Tower (1F, 3F)
1-1-30, Shiba Diamon Minato-Ku, Tokyo, Japan
(P.C.105-0012)
Tel: +81 03-4520-6654
Email: **Mamoru.hasegawa@ametek.com**

Thailand
Ametek - Thailand
Solartron Metrology Division
No. 89/45 Moo. 15 Enterprise park
Bangna-trad road, Bangkaew, Bangplee
Samutprakarn, Thailand, 10540
Tel: +66 2 012 7500
Mobile: +66 92 087 9222
Email: **hidenao.tanaka@ametek.com**

**Solartron Metrology also carries
an extensive network of sales
agents in all major countries.
For a local contact, go to
www.solartronmetrology.com/co
ntact or email at**
sales.solartronmetrology@ametek.
com