OPC-UA I/O Solutions

Powerful , Robust and Easy-to-Use

- Powerful I/O platform runs from your OPC-UA server
- Supported by all of UEI's popular Cube and RACKtangle chassis
- Flexible, compact and rugged
- Web/HTML configuration
- Flexible: Over 40 I/O boards available
- Remote connections possible through VPN and Firewalls
- 100Base-T, 100Base-FX (fiber), or Gigabit Ethernet
- Supports the OPC-UA Historian functionality
- 10-year availability Guarantee

OPC-UA support is available on all UEI's chassis!

General Description:

UEI's OPC-UA compatible I/O product family has been designated the UEI-OPC-UA series. It offers an unprecedented combination of flexibility, high performance, low cost, ruggedness and small size, all fully supported by your standard OPC-UA host. The OPC-UA functionality is available on all of UEI's popular Cube and RACKtangle form factors.

UEI-OPC-UA series supports the following profiles and facets

Server Profile: Embedded UA Server profile

Transport Profile: UA-TCP, UA-SC, UA Binary

Security Profiles: SecurityPolicy - Basic256Sha256, SecurityPolicy - Basic256 and SecurityPolicy – None

Access Types: Data Access, Historical Data Access

System configuration is made easy by the UEI-OPC-UA's intuitive, easy to use web/HTML interface. A screen capture of the web interface is shown on the following page. The web interface also supprts the OPC-UA Historian functionality.

There are currently over 40 different I/O boards available providing the functions shown in the column to the right:

Input Boards

- 0-20 / 4-20 mA input
- Thermocouple input
- RTD input
- Strain and Wheatstone Bridge input
- Voltage input
- Digital I/O
- Speed/Frequency Input
- Quadrature Encoder Input

Output Boards

- 0-20 / 4-20 mA output
- Voltage output
- Digital Output
- Relay Output
- plus many more.

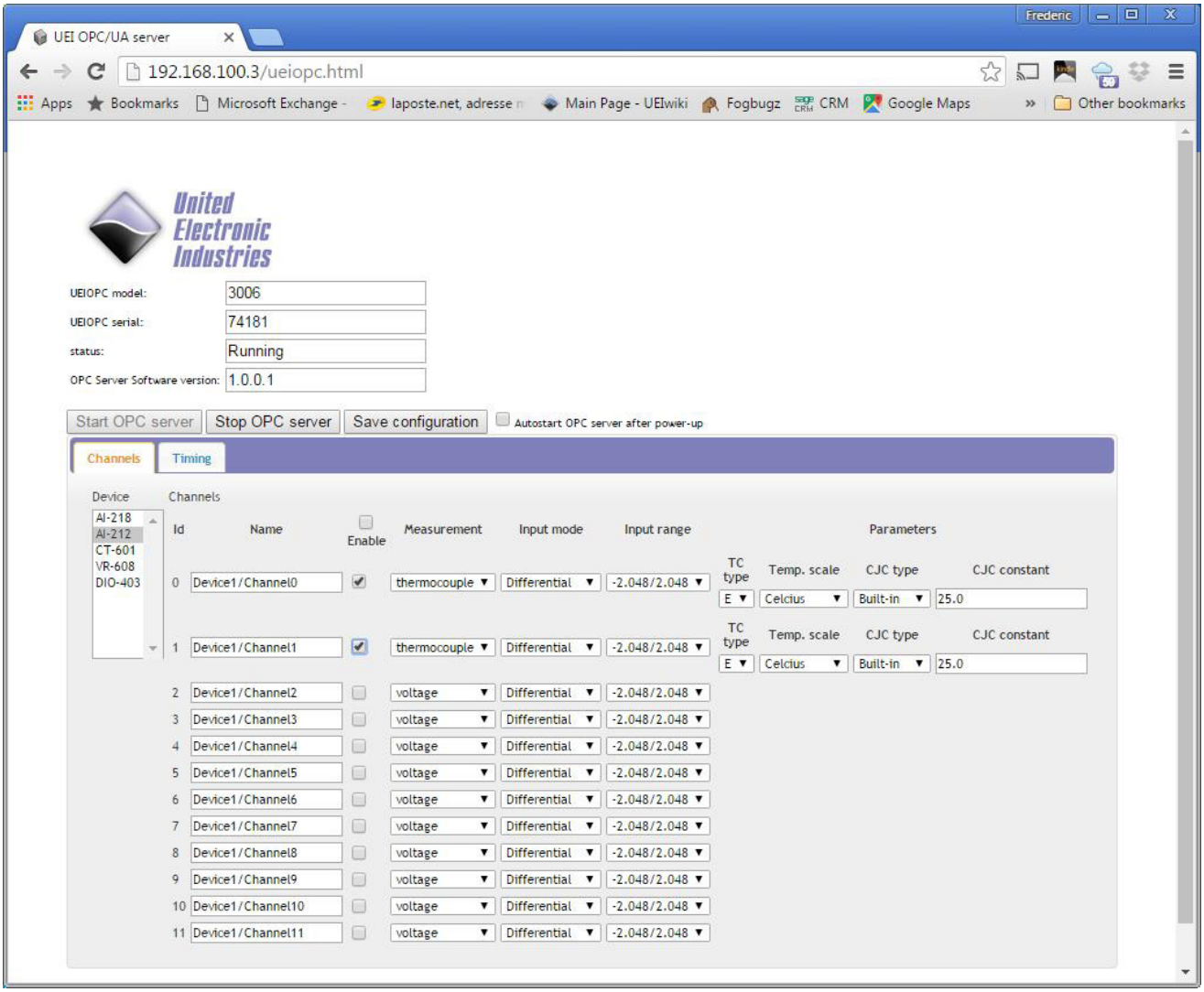
With this many different I/O boards available, there is sure to be a configuration perfect for your application.

OPC-UA systems are ideal solutions in a wide variety of measurement and control applications in industries such as: Oil & Gas, Automotive, Energy Systems, Food & Beverage, Water Treatment, Chemical Processing and many more!

Ordering Guide:

UEIOPC-UA Chassis (includes Universal AC power supply, Serial and Ethernet cables and 2 (300/600/700) or 8 Gbyte SD Card)	
Part Number	**Description**
UEINET-OPC-UA	UEINet series one slot Gigabit Ethenet based OPC-UA Cube
UEIOPC-UA 300	100 Base-T based OPC-UA Cube with 3 available I/O slots
UEIOPC-UA 600	100 Base-T based OPC-UA Cube with 6 available I/O slots
UEIOPC-UA 700	100 Base-T based OPC-UA Cube with 7 available I/O slots
UEIOPC-UA 300-1G	Gigabit Ethernet based OPC-UA Cube with 3 available I/O slots
UEIOPC-UA 600-1G	Gigabit Ethernet based OPC-UA Cube with 6 available I/O slots
UEIOPC-UA 600R	Gigabit Ethernet based OPC-UA RACKtangle with 6 available I/O slots
UEIOPC-UA 400F-AC	1U FlatRACK, rack mountable 4 slot chassis with Gigabit Ethernet and 100-240 VAC AC power
UEIOPC-UA 400F-DC	1U FlatRACK, rack mountable 4 slot chassis with Gigabit Ethernet and 9-36 VDC power
UEIOPC-UA-400-MIL	Military style, 4 slot Cube with GigE Ethernet ports and 38999 connectivity
UEIOPC-UA 1200R	Gigabit Ethernet based OPC-UA RACKtangle with 12 available I/O slots
UEIOPC-UA-1200-MIL	Military style, 12 slot RACKtangle with GigE Ethernet ports and 38999 connectivity

Example Configuration Screen



UEI's OPC-UA web based I/O configuration tool makes it very easy to configure your system and prepare it to connect to your OPC-UA server. The web based tool also allows you to select the channels you wish to store in the Historian for future reference.

UEIOPC-UA: Industrial Chassis Hardware Technical Specifications

Computer Interface	PPCx series Cubes	PPCx-1G series GigE Cubes	RACKtangle Chassis
Primary Ethernet Port	10/100Base-T, RJ-45 connector	10/100/1000Base-T, RJ-45 connector	10/100/1000Base-T, RJ-45 connector
Diagnostic Port	not applicable	10/100/1000Base-T, RJ-45 connector	10/100/1000Base-T, RJ-45 connector
Other Port functions	Daisy chained single port switch provided	Ports may optionally be bonded/teamed	Ports may optionally be bonded/teamed
Optional Interface	100Base-FX Fiber (single or multi mode)	n/a	n/a
Config/Serial Port	RS-232, 9-pin "D"	RS-232, 9-pin "D"	RS-232, 9-pin "D"
I/O Board Support			
Series supported	Most DNA-series boards	Most DNA-series boards	Most DNR-series boards
Embedded Software / Operating System / Processor			
Embedded OS	Linux	Linux	Linux
CPU	Freescale MPC5200, 400 MHz, 32-bit	Freescale 8347, 400 MHz, 32-bit	Freescale 8347, 400 MHz, 32-bit
Memory	128 MB (100 MB available for application SW)	128 MB (100 MB available for application SW)	128 MB (100 MB available for application SW)
FLASH memory	4 MB (0 MB available for user apps)	32 MB (16 MB available for user apps)	32 MB (16 MB available for user apps)
SD card interface	SD cards up to 32 GB (8 GB included)	SD cards up to 32 GB (8 GB included)	SD cards up to 32 GB (8 GB included)
Physical Dimensions			
1 I/O slot	UEINET-OPC-UA: 4.1" x 4.0" x 2.7"	n/a	n/a
3 I/O slots	UEIOPC-UA 300: 4.1" x 4.0" x 4.0"	UEIOPC-UA 300-1G: 4.1" x 5.0" x 4.0"	n/a
6 I/O slots	UEIOPC-UA 600: 4.1" x 4.0" x 5.8"	UEIOPC-UA 600-1G: 4.1" x 5.0" x 5.8"	UEIOPC-UA 600R: 5.25" x 6.2" x 10.5"
7 I/O slots	UEIOPC-UA 700: 4.1" x 4.0" x 6.6"		
12 I/O slots	n/a	n/a	UEIOPC-UA 1200R: 5.25" x 6.2" x 17.5" (3U)
Environmental			
Electrical Isolation	350 Vrms	350 Vrms	350 Vrms
Temp (operating)	-40 °C to 85 °C	-40 °C to 70 °C	-40 °C to 70 °C
Temp (storage)	-40 °C to 100 °C	-40 °C to 85°C	-40 °C to 85 °C
Humidity	0 to 95%, non-condensing	0 to 95%, non-condensing	0 to 95%, non-condensing
Vibration			
(IEC 60068-2-64)	10–500 Hz, 5 *g* (rms), Broad-band random	10–500 Hz, 3 *g* (rms), Broad-band random	10–500 Hz, 3 *g* (rms), Broad-band random
(IEC 60068-2-6)	10–500 Hz, 5 *g*, Sinusoidal	10–500 Hz, 3 *g*, Sinusoidal	10–500 Hz, 3 *g*, Sinusoidal
Shock			
(IEC 60068-2-27)	50 *g*, 3 ms half sine, 18 shocks at 6 orientations; 30 *g*, 11 ms half sine, 18 shocks at 6 orientations	100 *g*, 3 ms half sine, 18 shocks at 6 orientations; 30 *g*, 11 ms half sine, 18 shocks at 6 orientations	100 *g*, 3 ms half sine, 18 shocks at 6 orientations; 30 *g*, 11 ms half sine, 18 shocks at 6 orientations
Altitude	70,000 feet (special version to 120,000')	70,000 feet, maximum	70,000 feet, maximum
Power Requirements			
Voltage	9 - 36 VDC (115/220 VAC adaptor included)	9 - 36 VDC (115/220 VAC adaptor included)	9 - 36 VDC (115/220 VAC adaptor included)
Power	3.5 Watts (not including I/O boards)	7 Watts (not including I/O boards)	10 Watts (not including I/O boards)
Reliability			
MTBF	>300,000 hours	>160,000 hours	>130,000 / 160,000 hrs DNR-12 / DNR-6

UEIOPC-UA: MIL series Hardware Technical Specifications

Computer Interface	MIL series ruggedized chassis
Primary Ethernet Port	10/100/1000Base-T, 38999 connector
Diagnostic Port	10/100/1000Base-T, 38999 connector
Config/Serial Port	on LAN/COM 38999 connector
I/O Board Support	
Series supported	Most DNR-series boards
Operating System / Processor system	
Embedded OS	Linux, kernel 2.6.x
CPU	Freescale 8347, 400 MHz, 32-bit
Memory	256 MB (128 MB available for application SW)
FLASH memory	32 MB (16 MB available for user apps)
SD card interface	SD cards up to 32 GB
Physical Dimensions	
4 I/O slots	UEIOPC-UA 400-MIL: 6.2" x 7.1" x 8.7", 11 lbs.
12 I/O slots	UEIOPC-UA 1200-MIL: 17.5" x 8.1" x 7.0" 22 lbs. (Std 3U)
Environmental	
Temp (operating)	-40 °C to 85 °C (power dissipation of actual system may require derated max temp.)
Temp (storage)	-40 °C to 85 °C
Humidity	0 to 95%, non-condensing
Vibration	MIL-STD-810G plus the IEC specs below
(IEC 60068-2-64)	10–500 Hz, 5*g* (rms), Broad-band random
(IEC 60068-2-6)	10–500 Hz, 5 *g*, Sinusoidal
Shock	MIL-STD-810G plus the IEC specs below
(IEC 60068-2-27)	100 *g*, 3 ms half sine, 18 shocks at 6 orientations; 30 *g*, 11 ms half sine, 18 shocks at 6 orientations
Altitude	70,000 feet, maximum
EMI / RFI	Designed to meet MIL-STD-461
Sealing	Default unit sealed to IP 66 or better. Pressure relief valves support continuous altitude changes of 5000 fpm. Units can be configured with bottom weep holes if desired.
Power Requirements	
Voltage	9 - 36 VDC designed to meet MIL-STD-1275
Reliability	
MTBF	>130,000 / 160,000 hrs DNR-12 / DNR-6