Often referred to as simply "The OMNI" and installed in over 72 countries worldwide, the OMNI 3000 & 6000 flow computers continue to be selected for their industry leading standards in design, performance, and value.

- Performance
- Reliability
- Continuity
- Security
- Traceability
- Affordability

PERFORMANCE

The OMNI is built to meet the needs of measurement first. From the moment you apply either AC or DC power to the OMNI, it is available ready for measurement in less than one second. The OMNI is not restricted by inefficient, slow loading, memory hungry operating systems, intended for the PC, mobile phone, or PDA consumer devices. Our highly efficient firmware structures integrate with bulletproof hardware and

designed for just one thing. Naturally, the OMNI meets and exceeds the data processing, accuracy, and calculation cycle time requirements of all recognized standards bodies such as API, ISO, OIML, and AGA. Coupled with the largest flow computer specialist support team and unique on-line support tools and documentation, the OMNI continues to set standards in the industry.

RELIABILITY

The OMNI has a MTBF (Mean Time Between Failure) greater than 8,000 days. This is not a theoretical calculation or an arbitrary statement, but actual field performance data. We have documented cases of exposure to lightning strikes, hurricanes, water immersion, and even a car crash.

OMNI Serial numbers 001, 002, 003, and 004, produced in 1991, are still in daily operation. Although they are somewhat different to today's OMNI in some functionality, they can be upgraded to current factory specifications at any time. What other flow computing device can make this claim during the past 20 years?

CONTINUITY

Without changing its familiar construction and easy-to-use menu navigation, every part of the OMNI undergoes continuous development. OMNI manages all parts of its product design, development, manufacture, and distribution 100% under one roof. This guarantees that all advances in technology are incorporated by specialists and are backward compatible. You do not have to buy a new computer every several years with the hidden engineering costs, training requirements, and adoption time associated with buying an all-new device nor with the

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costs associated with obsolescence to your control system. With an OMNI, you simply upgrade internal hardware and firmware.

OMNI does not use a third-party PC operating system such as Windows® or Linux. These operating systems were intended for short lifetime consumer markets such as PCs, mobile phones and PDAs and not a support lifetime of 15 or 20 years. OMNI customers are not at the mercy of third-party suppliers of freeware who may decide to stop supporting key system utilities and obsolete your flow computer overnight, long before its "sell-by" date.

SECURITY

There are always at least two parties to a measurement transaction, and these can include the buyer, seller, field owners, or government regulator, to name a few. It does not matter what task your flow computer is performing: custody transfer, allocation, royalty, pipeline, ship loading, utilities, or LACT. Compliance to the contractually agreed measurement standards is the responsibility of the system operator. Even the slightest discrepancy over time can cost hundreds of man-hours, or at a minimum, hundreds of thousands of dollars.

When flow computers have an open or programmable architecture it opens the door for the manufacturer's calculations to be compromised, edited, or modified in a variety of ways. The traceability to any approvals a device may have previously obtained can be overwritten, manipulated, or simply avoided during application programming by the manufacturer or integrator. Even the simple audit of firmware revision and checksum for compliance could require the complete verification of all the flow computer calculations and functions. Only OMNI gives you the assurance that what OMNI implements at the factory is what is being used in the field for your measurement and applications. Buyer, seller, auditor, and regulator alike need to have the same

assurance and peace of mind.

TRACEABILITY

OMNI recognizes that most flow computer manufacturers, integrators, and even users are not experienced, qualified embedded software developers and programmers. For this reason, OMNI does the programming, testing and verification for you. Three quick steps tell you exactly what standards and tasks the flow computer is performing. Simple configuration, never programming, is all that it takes to install, operate and maintain an OMNI. We take responsibility for our software implementation. We do not delegate this to others, least of all our users. This is the real significance of ISO9001:2008 Quality Assurance.

AFFORDABILITY

The OMNI represents reliability, stability, and security. Without constant design changes or frequent software updates, you don't lose time, money and measurement as a result of manufacturer or integrator inexperience or product changes. Just imagine changing your flow computer as often as you change your personal computer, notebook or cellphone!
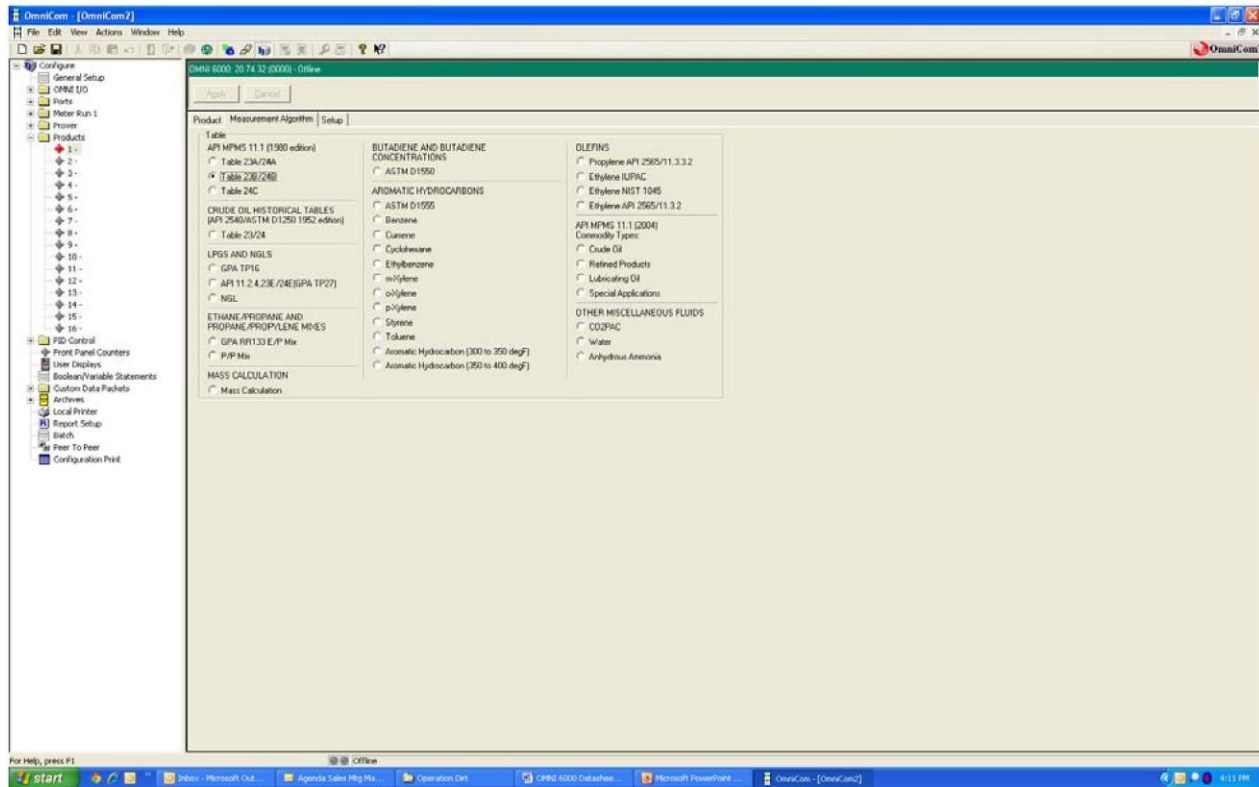
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OMNICOM®

OMNICOM is the companion PC Windows-based software that enhances the use of OMNI 3000 and OMNI 6000 flow computers. It simplifies the configuration of an OMNI either online or offline allows the user to perform operations such as quality monitoring in gas systems, batching, and proving in liquid systems. Valuable diagnostic and data screens have been available since 1992.

- Online and offline configuration
- Local and Remote access
- simple operation
- Multiple site access
- Extensive F1 help
- Built in safety limits
- Extensive communications logging and debugging
- Customizable reports
- Windows 7 supported

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This single Windows program is all that you need to perform any task on an OMNI. There are no high-level programs that permit back door changes to the core flow computer software/firmware.

It does not matter if you are simply changing one alarm limit or adding a whole new meter run, OMNICOM does not require the OMNI to be taken offline to make any kind of change. Through superior design focused on measurement needs, OMNICOM isn't restricted by the limitations of a third-party operating system or web-based system that can be unusable due to bandwidth and network firewall issues. No time-consuming application code and files have to be compiled and downloaded. All changes can be made online without interruption to your business.

When you need help, OMNICOM has extensive F1 HELP that provides further details for each configuration entry.

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Additionally, many key configuration parameters have built-in safety limits that protect you from the accidental creation of gross errors leading to faulty measurement. When the OMNI, with its built-in traceable and independently verified calculations are not enough, the OMNI has a fully traceable and visible user statement area best viewed with OMNICOM. The calculations and functions supplied by OMNI cannot be altered, manipulated or edited by the integrator or user after OIML Approval. This assures all parties to a custody transfer transaction that the calculations are the manufacturer's offering when shipped, in compliance with standards and approvals. The additional calculations or functions can be implemented only using OMNICOM or the front panel. These are completely visible through the front panel, OMNICOM, or a hard copy configuration report. Nothing is hidden. At all times, your OMNI is verifiable and traceable back to the factory-supplied, OIML-approved firmware. No other manufacturer can give you this assurance.

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Specification Sheet
OMNI® 3000 & 6000 Flow Computer

OMNI FEATURES

With its fast, one-second power-up recovery, field-proven reliability, longevity, and usability, OMNI has the lowest cost of ownership in the business. The result of continuous end user requirement development, the OMNI track record stands alone protecting the interest of both buyer and seller in custody transfer measurements.

- One-second power up
- Three-year limited warranty
- Crude oil, refined products, LPGs, anhydrous ammonia, ethylene, chemical, natural gas, NGLs, specialty gases, water and steam product selection
- Stream, batch and station totalization
- Multiple products with individual product totalizers
- Multiple batch consolidation
- Batch recalculation
- Batch stack – product scheduling
- Automatic prove sequence control
- All meter types: DP, PD, Turbine, Coriolis, Ultrasonic
- K-Factor and meter-factor linearization
- Viscosity linearization
- All prover types
- Multiple I/O types, 4-20mA, 1-5V, HART, Honeywell DE, Rosemount MV, Coriolis MVS
- Meter run and station densitometer
- Redundant gas chromatograph interface
- Run switching
- Premium billing
- Maintenance mode
- Multiple Modbus/TCP and Modbus over Ethernet (Multiple socket) as well as conventional RS232/485 connections
- AC or DC powered
- Configure from keypad or PC

- Multiple metrological approvals
- Broad ambient temperature range
- Calculations performed to 64-bit double precision accuracy
- PID control loop with primary and secondary control parameters
- Virtual inputs for system simulation and testing
- Unique on-board Help
- Simple firmware upgrades

OMNI pioneered flow computing based on maintaining a fixed calculation cycle time rather than task loading. Today's OMNI flow computer still maintains a measurement calculation cycle time of 500ms that exceeds any industry requirements. This is in spite of industry changes in flow meter and communication technologies. We can demonstrate this to you at any time. Calculations are carried out in double precision (64-bit), floating point format for greatest accuracy. Totalization integrity is assured through the well established industry practice of triplicated (Tri-reg) storage and checking routines.

The modular design lets you buy the hardware you need for any given application – refer to Model Guide selection for greater details. When you need to add an additional meter run, simply add any other I/O modules you need.

"Future-Proof" is a term used freely by our competitors, yet subject to considerable doubt in practice. OMNI has demonstrated "future-proof" since 1991. Even OMNI flow computers in long-term service are backward compatible through upgrade paths to today's specifications, approvals and customer requirements.

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COMMUNICATIONS

In today's modern and changing IT environment, flexibility in communications is an essential consideration for your choice of flow computer. Not only communication with higher level systems such as supervisory, DCS, pipeline integrity and accounting systems, but with lower level devices such as secondary instrumentation on the pipeline or the system PLC.

- Ethernet – 8 sockets/port
- RS232/485 - Configurable
- Encapsulated Modbus, Modbus/TCP, TCP/IP
- Modbus; ASCII, RTU + Modem compatibility, Master and Slave
- Peer-to-Peer
- HART®
- Honeywell DE
- Allen-Bradley; Full and half Duplex
- Direct plug and play compatibility to Ultrasonic and Coriolis flowmeters + Gas Chromatographs

Today's discerning customer prefers Ethernet communications wherever possible, but also needs to integrate with legacy equipment using serial communications at the same time. OMNI offers a mix and match ability to meet even the most demanding system users' needs. A total of ten (10) communications parts can be set up in the OMNI – Up to eight (8) RS232/485 and up to two (2) Ethernet ports in combination - up to ten total.

OMNI Ethernet modules offer up to 8 "sockets" per port for concurrent connections with security enabled – password, MAC address, IP address or IP range.

Network printing is a standard feature that includes multiple printer IP address identification with the additional feature of Report assignment to each printer.

Communication to SMART devices installed on the pipeline is simply achieved by selection of the appropriate OMNI hardware module. Within the OMNI firmware, the protocols and register maps will automatically implement based on the device type you select. Connection to HART or Honeywell DE enabled transmitters and multivariable (MV or MVS) units requires specific modules as identified in the Mode Selection Guide of this Specification (Connections for smart transmitters, flow meters and multivariable devices).

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OMNI 3000/6000 MODEL GUIDE

In order to be able to specify and select your OMNI flow computer Model, you will need to know:

- How many meter runs will be connected?
- How many and what type of field equipment inputs and outputs will be connected?
- What communications connections will you require?
- Are you measuring hydrocarbon gas or liquid or some other fluid?
- Will you measure in metric (IS) or US customary units?
- What is your preferred installation style?

The OMNI 3000 would typically be used for single liquid or perhaps dual gas meter run applications. It will accept two (2) field I/O modules (combo modules). It has one 12 channel digital I/O module and one communications module (either Serial or Ethernet). For all other applications, you should use an OMNI 6000.

The OMNI 6000 is designed to accept up to 24 input signal using six (6) field I/O modules (Combo Modules) including two (2) serial SV modules and would typically be used for up to four (4) meter run applications. In addition, it would come with two 12 channel digital I/O modules and up to three communications modules (either Serial or Ethernet or a mix of both).

CONNECTING YOUR OMNI

The number and types of process I/O signals determine the number and types of modules you select for your application. OMNI's combination modules are selected to meet the number and type of I/O your system requires.

CONVENTIONAL I/O SIGNALS

Module	INPUT 1	INPUT 2	INPUT 3	INPUT 4	OUTPUTS
Type A	4-20mA 1-5V RTD	4-20mA 1-5V RTD	4-20mA 1-5V Meter Pulse	4-20mA 1-5V Meter Pulse	2 x 4-20mA
Type B	4-20mA 1-5V RTD	4-20mA 1-5V RTD	4-20mA 1-5V Meter Pulse	Densitometer (frequency)	1 x 4-20mA
Type E	4-20mA 1-5V RTD	4-20mA 1-5V RTD	Meter Pulse Dual Pulse (With Level A fidelity) Dual Chronometry	Meter Pulse Dual Pulse (With Level A fidelity) Dual Chronometry	2 x 4-20mA
Type E/D	4-20mA 1-5V RTD	4-20mA 1-5V RTD	Densitometer (frequency)	Densitometer (frequency)	2 x 4-20mA

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CONNECTIONS FOR SMART TRANSMITTERS, FLOW METERS AND MULTIVARIABLE DEVICES

If your I/O includes "Smart" devices such as HART or Honeywell transmitters, flow meters with serial data links, then select from the modules below:

Module	INPUT 1	INPUT 2	INPUT 3	INPUT 4	OUTPUTS
For Honeywell Transmitters Type H	Select H Modules for up to 4 Honeywell Smart devices connected point-to-point.				2 x 4-20mA
Module Type HV	Select HV Modules for up to 4 Honeywell Multivariable Transmitters connected point-to-point.				2 x 4-20mA
For HART Transmitters Type HT	4 HART Networks per Module Select HT Modules for up to 4 HART devices connected point-to-point.				2 x 4-20mA
Type HM	Select HM for up to 4 HART multi drop networks, 4 transmitters per network. 16 (4 x 4) devices max per module.				2 x 4-20mA
Type SV (Serial Process Variable)	Select SV Modules for Serial Data Communications connections to the following process devices. Supports 2 device connections per module:- • Rosemount 3095FB • Elster-Instromet Ultrasonic Flow Meter • Daniel Ultrasonic Flow Meter • SICK Ultrasonic Flow Meter • FMC Ultrasonic Flow Meter				6 x 4-20mA

COMMUNICATIONS MODULES

For Serial or Ethernet data connections to any other devices not listed under the SV module above (including connections to; OMNICOM/PC, DCS, supervisory systems, PLCs, gas chromatographs, printers, HMI's, OPC databases etc.), select from the following communications modules:

Module Type S (Serial)	Configurable as either RS-232 or RS-485, Master/Salve 2 independent ports per module. Up to 3 S modules (6 ports) may be installed.

Module Type SE (Single Ethernet)	1 Ethernet Port supporting up to 8 concurrent connections (Sockets) per port. 1 Configurable either RS-232 or RS-485, Master/Salve Serial port. 1 RS-485 Repeater Port. Up to 2 SE modules may be installed + 1 additional S module where necessary.

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DIGITAL, DISCRETE, STATUS I/O SIGNALS

For digital signal I/O, the OMNI Digital or D module is used for signals such as status, command, pulse outputs, sampler grab signals, and prover sphere detector switches input. Each digital channel is configured by the user to be an input or output.

Module Type D (Digital)	12 configurable digital inputs or outputs per D module Maximum 24 (12 x 2) per OMNI

APPLICATION FIRMWARE

Select the firmware to be installed in the OMNI first by the required measurement units (US customary or metric), secondly by the fluid to be measured (gas or liquid), and then by the primary flow meter device type.

		OMNI Firmware Revision Number	
Fluid To be measured	**Flow Meter Type**	**US Customary Units**	**Metric Units**
Liquid	Turbine, PD, Ultrasonic, Coriolis applications with K- Factor Linearization	Rev 20	Rev 24
Liquid	Orifice/DP Meters	Contact OMNI	Contact OMNI
Liquid	Turbine, PD, Ultrasonic applications with Meter-Factor Linearization	Rev 22	Rev 26
Gas	DP; Orifice, Venturi, Cone, Nozzle + Turbine, Ultrasonic, Coriolis	Rev 23	Rev 27

Should you need any assistance with the I/O module selection for your application, contact OMNI Sales directly or your local OMNI approved reseller office.

Example Model Number - NE4OPT-6-1D-1S-1SE-1B-2E R20
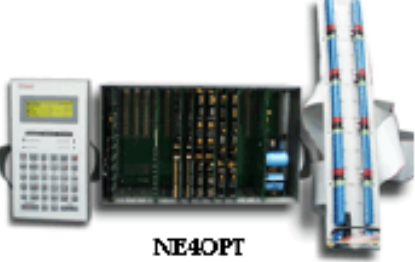
The above model number would give the following: NEMA Ready Style, with
      12 Digital I/O (D Module)
      3 RS232/485 Serial Ports (S + SE Module)
      1 Ethernet port (SE Module)
      1 Densitometer Input (B Module)
      7 Analog Inputs and 6 Analog outputs (B+E modules)
      4 Meter Pulse inputs (4 single pulse or 2 dual pulse meters)
      Firmware for pulse output meters, US Units (R20)

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INSTALLATION STYLES

The OMNI 3000/6000 is available in a range of installation styles to suit your site needs. All the options below may be powered by AC or DC. Field connections are made using screw terminals.

Panel Mount

(Order code 3000 or 6000)

For installation into standard instrument and control room panels. Supplied with the necessary installation hardware to secure to the front of the panel. Field connections are made at the rear of the OMNI.

Panel Mount With Extended Back Panel

(Order code 3PMN4O or 6PMN4O)

Installed as the panel mount. Field connections are made via an extended panel which is installed close to the main field terminations. Connection of the extended panel to the OMNI is made via OMNI supplied ribbon cables available in 5, 10, and 15 foot (1.5m, 3.0m and 4.5m) lengths.

NEMA Ready

(Order code NE4OPT3 or NE4OPT6)

Designed for installation in NEMA4 type enclosures but can alternatively be installed in 19" racks, cabinets and panels where space may be a constraint. With its lightweight, separate keypad and 18" (45.7cm) ribbon cable, it allows the OMNI to be installed on panel doors. Connection of the extended panel to the OMNI is made via OMNI supplied ribbon cables available in 5, 10, and 15 foot (1.5m, 3.0m and 4.5m) lengths.

NEMA4 and NEMA4X

(Order code NEMA4_3 or NEMA4X_6)

Available in painted 24" x 24" x 12.8" carbon steel (NEMA4) or stainless steel (NEMA4X) the NEMA ready OMNI's are pre-installed on an internal swing frame inside a lockable enclosure with viewing window.

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OMNI SPECIFICATIONS

Pursuant to a policy of product development and improvement, OMNI Flow Computers, Inc. may make any necessary changes to these specifications without notice.

CPU

Type	• 32-bit, 150 MHz Maximum
Flash	• 4 MB
Fast RAM	• 4 MB
RAM	• 2 MB Battery Backed – 1.5 MB minimum available for archive data
Real-Time Clock	• Battery backed-up, time of day; programmable interval down to 10 msec. Maintains time during power loss. Reports downtime on power-up
RAM Battery Backup	• 3.6 VDC NiMH
Typical Memory Backup Period	• 60 – 120 days *(with power removed).*
Typical Battery Life	• 5-7 years
Clock Accuracy	• Powered 0.05 seconds per day

APPROVALS

Approvals and Compliances	• UL, CSA • Available with European CE Mark. MID, European Directive 2004/22/EC, OIML R117-1, OIML D031, EN12405 Part 1; WELMEC 7.2 & 8.8
Additional Approvals	• NMi (Netherlands Measurement Institute), Measurement Canada, INMETRO (Brazil), GOST (Russia), PAC (China), Indian W&M, LNE (France).

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Specification Sheet
OMNI® 3000 & 6000 Flow Computer

CALCULATIONS

Gas (Partial)	• AGA3 (US and Metric), AGA5, AGA7, AGA8 (all years), AGA10, AGA11, modified-AGA-NX19, GPA 2172, ISO 5167 (All years), ISO 6976, ISO12213-3, S-GERG, NIST14, Steam NIST & ASME, Redlich-Kwong
Specialty Gases	• NIST 1048: Argon, Nitrogen, Oxygen, Hydrogen, Ethylene & Ethylene IUPAC
Specialist Meters	• Cone Meters, Equimeter/Invensys Auto-Adjust Turbine (AAT)
Liquid (Partial) Crude & Refined Products	• ASTM D1250 (1952) Tables 5/6, 23/24,53/54,59/60; API MPMS Ch.11.1 (1980) & (2004-2007), API MPMS Ch. 11.2.1 (1983),11.2.2, 11.2.1M, 11.2.2 M
LPGs,NGLs incl: Ethanes, Propanes, E/P Mixes:	• GPA TP15, GPA TP27, API MPMS Ch 11.1 (2004-2007) table 23/24E & 53/54E
Butadiene	• ASTM D1550.
Aromatics	• ASTM D1555: Benzene, Cumene, Cyclohexane, Ethybenzene, m-Xylene, o-Xylene, p-Xylene, Satyrene, Toluene, Aromatic hydrocarbon; 300-350 & 350-400F
Olefins	• Propylene API MPMS Ch.11.3.3.2, Ethylene IUPAC, Ethylene NIST1045, Ethylene API MPMS Ch.11.3.2
Misc	• CO2PAC, WATER, Anhydrous Ammonia
Prover Types	• Unidirectional, Bi-directional Pipe, SVP/Compact (Daniel, Honeywell (Calibron), Flow MD), Master Meter, Double Chronometry

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ANALOG INPUTS

Input Type	• 1-5V or 4-20mA
Scan Rate	• All channels read every 500ms
Input Impedance	• 1MΩ when configured for 1-5V • 250Ω when configured for 4-20mA *(selected by installing shunt resistor)*
Resolution	• 14 bits
Accuracy	• ±0.025% of reading +/- 2 counts 41°F to 122°F (+5°C to +50°C)
Common Mode Voltage	• ±250VDC to chassis ground

FLOWMETER PULSE INPUTS

Input Frequency	• DC to 15 kHz. Square Wave, DC to 12 kHz Sine Wave
Type	• Dual Pulse or Single Pulse optically isolated.
Signal Level	• Positive Going Trigger Threshold: +4.2 Volts +/- 0.2 volts (Nominal @ 1kHz) • Negative Going Trigger Threshold: +3.2 Volts +/- 0.2 volts (Nominal @ 1kHz)
Input impedance	• 1 M Ohm (Nominal @ 1kHz)
Common Mode Voltage	• ±250 VDC to chassis ground
Fidelity Checking	• API MPMS OL55 Level A.

DENSITOMETER PULSE INPUTS

Densitometers	• Micro Motion (Solartron), Chandler (UGC), ThermoFisher (Sarasota).
Positive Trigger Threshold	• +1.6 Volts +/0.2 volts
Negative Trigger Threshold	• +1.2 Volts +/0.2 volts

ANALOG OUTPUTS

Resolution	• 12 Binary Bits
Output	• Current source 4-20 mA (referenced to transducer power return terminal)
Common Mode	• ±250 Volts to chassis ground
Max./Min. Working Loop Voltage	• 30 VDC to 18 VDC
Loop Resistance	• 900 Ohm with 24 VDC Power, 1.2 k Ohm with 30 VDC Power
Update Rate	• Each 500 milliseconds
Signal Level	• 2 to 5 Volts Peak to Peak
Frequency	• 250 Hz to 6.7KHz (4000 – 150 micro second period)
Accuracy	• 10 ppm (Frequency)

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RTD INPUTS

RTD Configuration	• 4-wire Bridge (strongly recommended for fiscal accuracy)
RTD Resistance	• 100 Ohm @ 32°F (0°C)
Excitation Current	• 3.45 mA Nominal (+/0.02 mA)
Maximum Field Wiring Resistance	• 1k Ohm per wire
Resolution	• 0.008 Ohms
Range	• -229°F to 293°F (-145°C to +145°C)
Accuracy	• ±0.025% of reading +/- 2 counts 41°F to 122°F (+5°C to +50°C)
Common Mode Voltage	• ±250 VDC to chassis ground

DETECTOR SWITCH INPUTS (Non-Double Chronometry)

Input Type	• Voltage
Gating Transition	• Application of voltage starts and stops proves
Minimum Time Pulse High	• 1 msec
Minimum Time Pulse Low	• >2 seconds
Input Impedance	• 4.7 k Ohms
Input On Voltage	• >10 V On, <4 VDC+ Off (referenced to DC Power Return)
Debounce	• 2 sec in Software
Common Mode Voltage	• ±250 VDC to chassis ground

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Accuracy	• ±0.05 % of reading +/- 2 counts 32°F to 122°F
	• (+5°C to +50°C)

CONTROL OUTPUTS/STATUS INPUTS (12 Per Module)

Configuration	• Open emitter Darlington or FET transistor source (Referenced to transducer power return terminal) (Configured as an Output)
Current Capacity	• 200 mA max. per point, 500 mA per digital I/O module
Output Voltage	• +DC – 1v nominal (Configured as an Input)
Input Impedance	• 4.7 k Ohms in series with 2 LEDs
Input Voltage	• Input voltages > 8 to < DC+ will be recognized as on Input voltages < +2 V will be recognized as off
LEDs	• Operating and Fuse open circuit indicators on each channel
Common Mode	• ±250 Volts to chassis ground
Scan Rate	• Outputs may be pulsed at 50Hz Maximum

ETHERNET – COMMUNICATION SPECIFICATIONS

Quantity	• One port per module. 6 max in OMNI 6000, 1 Max in OMNI 3000
Connections	• 8 simultaneous (Sockets) per port
Physical	• 10BaseT
Speed	• 10MBits/Sec
Protocols	• Modbus, Modbus/TCP, LPD, Syslog, Telnet, TCP, UDP

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RS-232 – COMMUNICATION SPECIFICATIONS

Quantity	• Two ports per module. 10 max in OMNI 6000, 4 Max in OMNI 3000
Serial Data Output Voltage	• ±7.5 Volts typical
Recommended Load Impedance	• 1.5 k Ohm
Short Circuit Current	• 10 mA limited
Input Low Threshold	• VI = -3.0 Volts
Input High Threshold	• Vh = +3.0 Volts
Baud Rate	• Software Selectable Range: 1.2, 2.4, 4.8, 9.6, 19.2, 38.4 kbps
Common Mode Voltage	• ±250 Volts DC to chassis ground
LEDs	• Indicator LEDs for each channel input, output and handshaking signals

RS-485 – COMMUNICATION SPECIFICATIONS

Quantity	• Two ports per module. 10 max in OMNI 6000, 4 Max in OMNI 3000
Serial Data Output Voltage	• 5 Volts differential driver
Recommended Load Impedance	• 120 Ohm (located on module)
Short Circuit Current	• 20 mA Limited
Input Low Threshold	• 0.8 Volts
Baud Rate	• Software selectable, Range 1.2, 2.4, 4.8, 9.6, 19.2, 38.4 k bps
Common Mode Voltage	• ±250 Volts DC to chassis ground

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LEDs	• Indicator LEDs for each channel input, output and handshaking signals

HART – COMMUNICATION SPECIFICATIONS

Physical	• 10BaseT
Networks	• 4 per Module – 16 Max
Sensors	• 4 per Network – 64 Max per OMNI

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