

VIRTU

VISUALLY INTEGRATED REMOTE TELEMETRY UNIT

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VIRTU (Visually Integrated Remote Telemetry Unit), utilises the latest Mitsubishi PLC hardware platform the iQ-R, Weintek cmt-3151 HMI and Orbital's latest proprietary software package to deliver the first fully-end-user-configurable RTU for the UK market.

User Friendly

VIRTU has been extensively engineered during its design to make user operation in the field as intuitive and flexible as possible, comprising file setup, auto-generated back up files for rapid system restore, self-diagnostic information for operator interrogation, fully redundant CPU option, fast system switching, hot-swappable I/O, data trending information, and a PDF viewer.

Cyber Secure

- Designed to stringent IEC 62443 guidelines.
- Utilisation of 10/100 Mbps Managed Ethernet switches.
- Multiple subnets within the same system to provide layered protection.
- Remote access available via firewall protected 3G modem.
- Native protocol communication between HMI and RTU.
- Configuration based system setup for added confidence and less downtime.
- I.P. filtration feature built into the system for targeted security level 2(SL2).

VIRTU also contains two-stage password protection for the HMI setup wizard to limit access to non-authorized personnel. The first password is a locally-hosted password which provides the user access to the second stage authentication, which is an encrypted password continually generated based on the time, date and site ID. Orbital retains the password decoding information, which can be issued on request to pre-authorized users. A one or seven day pass can be issued based on client access requirements.



Power In Your Hands

The VIRTU setup wizard can be used to fully configure every aspect of the system allowing the end user the freedom to customise their own RTU.

ADDITIONAL FEATURES IN DEVELOPMENT

Orbital is committed to updating the features of this exciting platform, keeping pace with industry requirements and to continue to meet the ever-changing needs of our clients:

- Remote access via Orbital's own Android and iOS mobile app
- VNC Sever HMI facility for remote login
- Transferable configuration files between existing competitor RTUs and VIRTU
- IRIS (Orbital's former RTU platform) CPU retrofit kit

BENEFITS SUMMARY

- Fully user-configurable via HMI
- Conforms to latest cyber security guidelines
- Built on Mitsubishi hardware platform with reputation and longevity
- Simple to make the change from existing Orbital or other existing RTU systems

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A Family of Solutions to Suit Your Needs

Not all client assets have the same complexity or data management requirements, therefore a suite of standard options has been developed to make selecting the best solution for any given asset easier than ever:



VIRTU DL	VIRTU S	VIRTU	VIRTU IO+	BESPOKE DESIGN
<ul style="list-style-type: none"> • Low Power • (< 20W) Modbus RTU/TCP Enabled • 16 Digital Inputs • 16 Digital Outputs • 4 Analogue Inputs • Serial 485 Comms • 4.3" Touch screen HMI • Local Data Logging facility 	<ul style="list-style-type: none"> • Modbus RTU/ TCP Enabled • Fully User Configurable I/O • Serial 485 Comms • 10" Touch screen HMI • Configurable Block Valve Control • Local/ Remote Data Logging facility • Remote access available via VIRTU app • Designed to comply with INE/1 & INE/3 	<ul style="list-style-type: none"> • CPU Redundancy Available (<10 millisecond failover time) • Modbus RTU/ TCP Enabled • Fully User Configurable I/O • Serial 485 Comms • 15" Touch screen HMI • Designed to comply with INE/1, INE/3, INE/8 & INE/9 • Local/ Remote Data Logging facility • Remote access available via VIRTU app 	<ul style="list-style-type: none"> • As VIRTU with double the amount of configurable IO available. 	<ul style="list-style-type: none"> • Built and Tailored to client specification.

TECHNICAL DETAILS

PROCESSOR	
VIRTU DL	• Mitsubishi Electric, FX5UC-32MT/DSS-TS, DC 24V, 16 inputs DC 24V, 16 transistor outputs (Source type), built-in Ethernet, RS485
VIRTU Simplex, VIRTU & VIRTU IO+	• Mitsubishi Electric, Melsec, iQ-R, R08PCPU, 80k step memory, 0.98ns per instruction, multi processor, database, security
HMI	
VIRTU DL	• Mitsubishi Electric 4.3" touch screen HMI, GT2104-RTBD, Resolution: 480 x 272, Backlight: LED
VIRTU Simplex	• Weintek 9.7" touch screen HMI, CMT-3090, Resolution 1024x768, Backlight: LED
VIRTU & VIRTU IO+	• Weintek 15" touch screen HMI, CMT-3151, Resolution 1024x768, Backlight: LED
CONFIGURABLE TELEMETRY OBJECTS*	
VIRTU DL	• 16 Binary, 16 Numeric
VIRTU Simplex	• 16 Binary, 16 Numeric, 4 ROV's, 5 CLO's, 5 DB, 4 INT
VIRTU	• 32 Binary, 32 Numeric, 8 ROV's, 10 CLO's, 10 DB, 4 INT, 4 FCV
VIRTU IO+	• 64 Binary, 64 Numeric, 16 ROV's, 20 CLO's, 20 DB, 8 INT, 8 FCV
POWER SUPPLY AND CONSUMPTION	
VIRTU DL	• <1 ADC (20W Approx)
VIRTU Simplex	• <10 ADC
VIRTU	• Redundant <16 ADC, Non-Redundant <12 ADC
VIRTU IO+	• Redundant <18 ADC, Non-Redundant <14 ADC
COMMUNICATION INTERFACE	
All Models	Modbus TCP/IP – Server/ Client Modbus RTU – Master/ Slave
ADDITIONAL INFORMATION	
Functionality	User configurable, site back-up facility, automatic change control, remote access, diagnostic information, configuration verification software embedded.

* Binary - DI, DO, MB 0x, MB 1x
 Numeric - AI, AO, MB 3x, MB 4x
 ROV – Local/ Remote Operated Valves
 CLO – Combined Logic Objects
 DB – Dual Binary Objects
 INT – Integrators
 FCV – Flow Control Valves