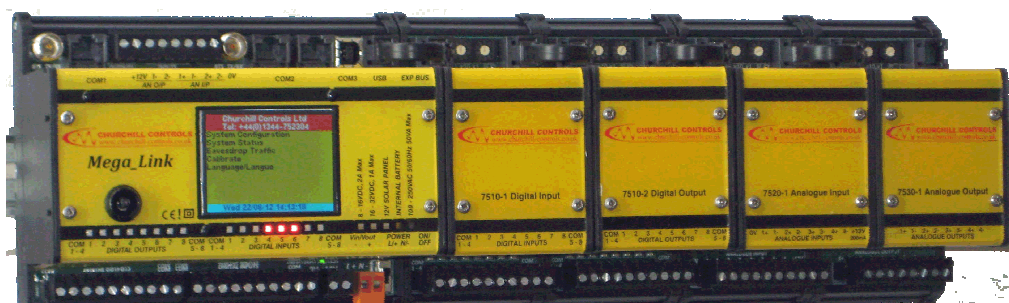


Mega_Link

Telemetry Communication System



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Churchill Controls Ltd

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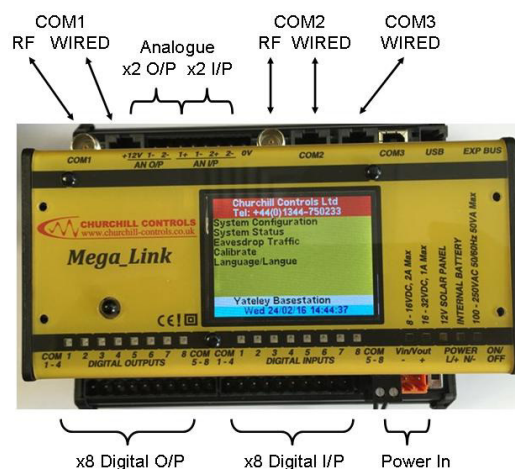
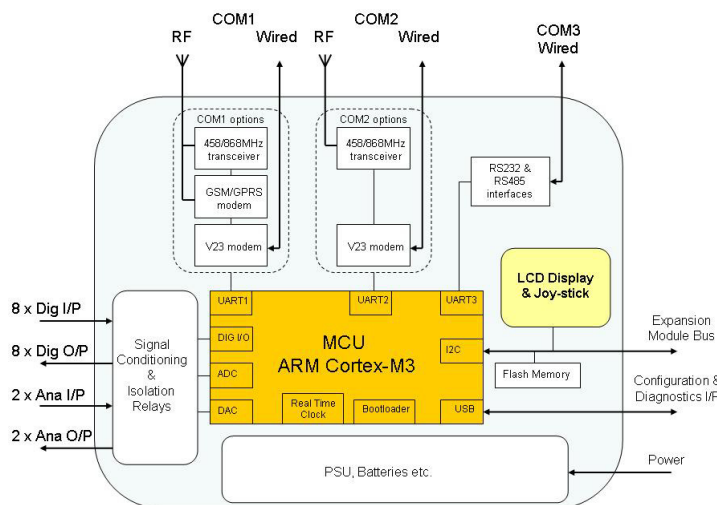
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Overview

Mega_Link is a low-cost and versatile telemetry communication system for passing two-way instrumentation, measurement and control data between industrial plant and equipment distributed over wide geographical areas and remote locations. Using de-regulated unlicensed UHF radio or the national GSM/GPRS network it removes the dependency for cables and is also ideally suited for both permanent and short-term site installations.

With a proven track record and existing installed base within major utility companies and organisations over a number of years, **Mega_Link** offers cost effective, robust and dependable performance, making it the ideal solution for your Machine to Machine (M2M), telemetry and control applications.

- Highly user configurable; any **Mega_Link** unit can operate as either a basestation or an outstation or both.
- **Mega_Link** can be ordered fitted with combinations of the following interface modules:
 - 458MHz UHF radio, up to 15km range depending on topography and aerial system
 - 869MHz UHF radio, up to 8km range depending on topography and aerial system
 - GSM/GPRS modem, 2G Quad band
 - V23 modem for leased line private wire
- The plant I/O interfaces are compatible with a wide range of digital & analogue instruments and equipment such as volt-free contacts, depth transducers, flow meters and electrical switchgear etc.
 - 8 Digital Inputs (volt-free contact).
 - 8 Digital Outputs (relay contact).
 - 2 Analogue Inputs (fully isolated, 0...20mA), with a regulated 12Vdc transducer supply
 - 2 Analogue Outputs (0...20mA).
- The standard plant I/O interfaces are expandable to add a further 256 physical inputs and outputs for larger system applications, using a range of **Mega_Link** expansion modules.
- Power supply, options include;
 - Internal 110/240Vac mains supply (with battery backup)
 - 12Vdc or 24Vdc
 - Solar panel and regulator (charging an external lead acid battery)
- DIN rail mounted for fitment in existing equipment racks or Churchill Controls can supply **Mega_Link** along with expansion modules ready built into a range of standard IP67 enclosures for quick and easy installation.
- We also supply a full range of aerials, download cables, masts, poles and all associated mounting hardware.
- Please contact Churchill Controls for a radio path survey service and advice during selection of the optimal aerial configurations for your application and installation sites.



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Advanced Features

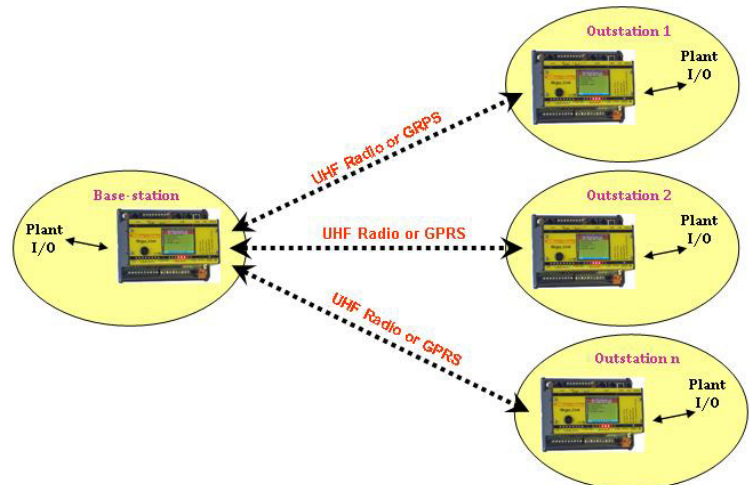
- Space for 2nd interface module to support Dual Comms operation for applications requiring extra resilience.
- RS232/RS485 port for interface to PLC and SCADA equipment using industry standard fieldbus protocols.
- Digital and analogue exception reporting for alerting change of conditions past pre-determined thresholds.
- GSM/GPRS option can send automated SMS alerts and receive SMS messages for system status monitoring.
- Variable scan update rate and PowerSave mode for extended low-power battery and solar panel operation.
- Outstations can also be configured to operate in a repeater mode to relay two-way radio communications over extended distances and overcome otherwise challenging geographical features and locations.
- Versatile and user configurable; communications failure, battery condition and RSSI monitoring functions.
- Built-in colour LCD display and joystick user interface for easy monitoring of status and operation.
- USB programming port for connection to Windows based PC or tablet running GUI software for setting up system configurations, data routing tables, detailed status monitoring and diagnostics etc.

Application Examples

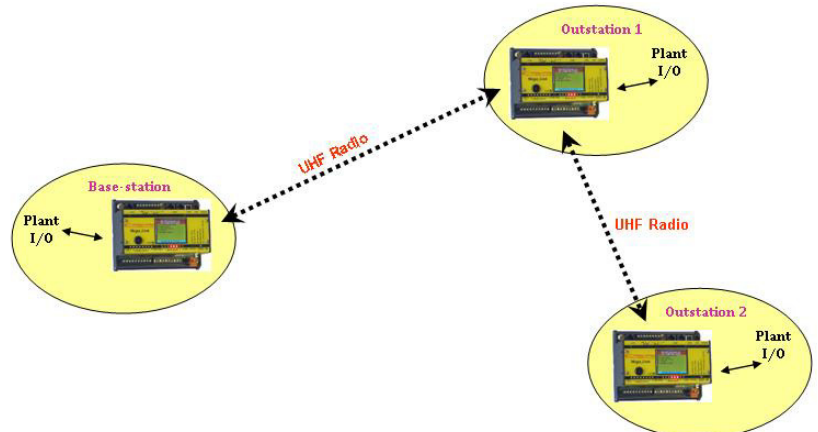
- Basestation and Outstation system.



- Basestation and Multiple Outstation system.



- Basestation to Outstation to Outstation (Repeater) system.



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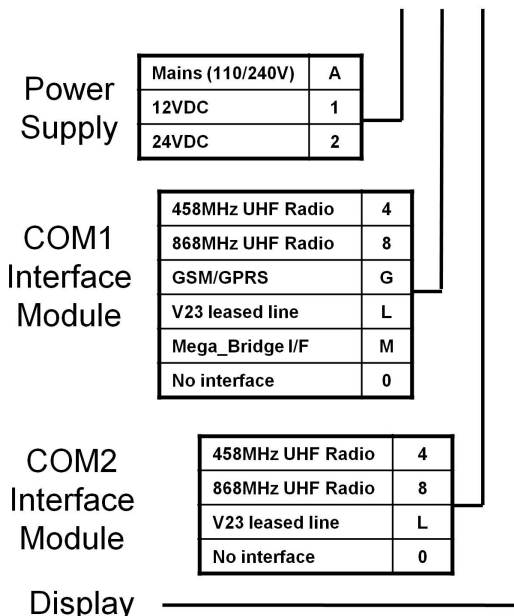
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Product Options and Ordering Information

Mega_Link can be ordered with a variety of power supply options and types of communication interface modules fitted in one or both of the COM1 and COM2 ports.

The base part number is 7600 and this is followed by a suffix of 4 characters to define the options as follows.

Mega_Link part number: 7600 – x x x D



Mega_Link Expansion Modules and Accessories:

8-channel Digital Input Expansion Module	7610-1
8-channel Digital Output Expansion Module	7610-2
4-channel Analogue Input Expansion Module	7620-1
4-channel Analogue Output Expansion Module	7630-1
Aerials	Various, depending on application
Aerial download cable	Per metre
Aerial mounting poles, brackets and hardware	Various, depending on application
Surge and lightning protection units	Mains power, aerial and leased line
Solar panel	Various, depending on application
UHF power meter	7330-1

Associated Support Services:

Radio path site survey	Price on application
Commissioning	Price on application
Service, repair and training	Price on application

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Specifications

Mechanical:	Size 150w x 125h x 110d, DIN rail mounting
Power Supply:	Mains: 100...250Vac, 50VA max (including 15WH battery back-up) 12Vdc: 6...15Vdc, 24W max 24Vdc: 20...30Vdc, 30W max Solar: Solar panel, external regulator and lead acid battery
Electrical Connections:	Pluggable 2.5mm ² screw terminals
Digital Inputs:	Two groups of 4, each from volt-free contact to common 0V return
Digital Outputs:	Two groups of 4 volt-free relay contacts, each to common return, rated 120Vac/0.3A, 24Vdc/1A
Analogue Inputs:	Two fully isolated inputs calibrated 0...20mA into 10 Ω , 0.025% resolution, 0.1% accuracy Regulated 12Vdc output for transducer excitement
Analogue Outputs:	Two outputs with common +12Vdc return, calibrated 0...20mA into 500 Ω max, 0.025% resolution, 0.1% accuracy
COM1, COM2:	De-regulated radio: UHF 458MHz, 500mW, up to 15km, depending on topography and aerial system UHF 869MHz, 500mW, up to 8km, depending on topography and aerial system GSM/GPRS cellular radio modem (2G Quad band) Leased line V23 modem
COM3:	Configurable for RS232 or RS485
Display:	320 x 240 colour TFT with adjacent joystick
System Capabilities:	No of outstations: 249 max per base-station No of repeaters: 8 max on any path
Fieldbus Protocols:	Modbus RTU Allen Bradley DF1 half duplex Mitsubishi Melsec FX and non-FX
Technical:	Processor: 32-bit ARM Cortex-M Clock Speed: 72MHz CPU Memory: 512KB Flash, 64KB RAM, 64KB NOVRAM Additional Memory: 256KB RAM, 1MB NOVRAM, 4GB Flash, 4GB SD Card

Expansion Modules:	Module size: 57w x 125h x 110d, DIN rail mounting Max number: 32 Digital Input: Eight, from volt-free contact, in two groups of four with two common 0V returns. Digital Output: Eight, contacts rated at 125Vac/0.3A, 24Vdc/1A, in two groups of four, with two common returns. Analogue Input: Four, fully isolated inputs calibrated 0...20mA into 10 Ω , 0.025% resolution, 0.1% accuracy Analogue Output: Four, fully isolated outputs calibrated 0...20mA into 500 Ω max, 0.025% resolution, 0.1% accuracy
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Contact Us

Churchill Controls have a group of Agents and Distributors covering the whole of UK & Ireland; for further information and downloads, please visit our website or contact sales for any enquiries.

<http://www.churchill-controls.co.uk/>

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