CSL ROUTER - INDUSTRIAL GRADE

CSL Router - Industrial Grade

Step 1 - Installation Site

1. Find a suitable location with good 4G coverage

2. Keep away from sources of interference i.e. monitors, fridges, power supplies, etc.

3. LEDs will show connection status

Step 1 - Installation Site

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Step 2 - Aerial xDSL & Power

1 - Fit the included aerial to the front connection port marked WAN PRIM & WAN AUX

2 - Plug the PSTN line to the DSL port on the front of the Router and plug the other end into the BT socket.

3 - Power up the Router using the supplied PSU

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Step 3 - xDSL Status

1 - For best results ensure that both green signal strength LEDs are ON to indicate the Router has established good signal strength

2 - when one LED is OFF & the other ON (ON/OFF LED status) it indicates a medium signal strength which is also acceptable

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Step 4 - Signal Strength

1 - For best results ensure that both green signal strength LEDs are ON to indicate the Router has
established good signal strength

2 - when one LED is OFF & the other ON (ON/OFF LED status) it indicates a medium signal strength
which is also acceptable

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Step 5 - Connecting Devices

1 - IP devices can now be connected using the supplied ethernet cable or wirelessly. Be aware Port Forwarded AnyConnect traffic is set by default to forward to 192.168.100.2/24. For your specific 4G Router WAN SIM IP Address please see the sticker on the back page.

THE EXTERNAL WALL MOUNTED CSL HIGH GAIN AERIALS ARE AVAILABLE AS AN OPTIONAL ACCESSORY. PLEASE CONTACT CSL M2M SUPPORT FOR MORE INFORMATION

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Technical Specifications

Figure 1 - CSL Router - Industrial Grade
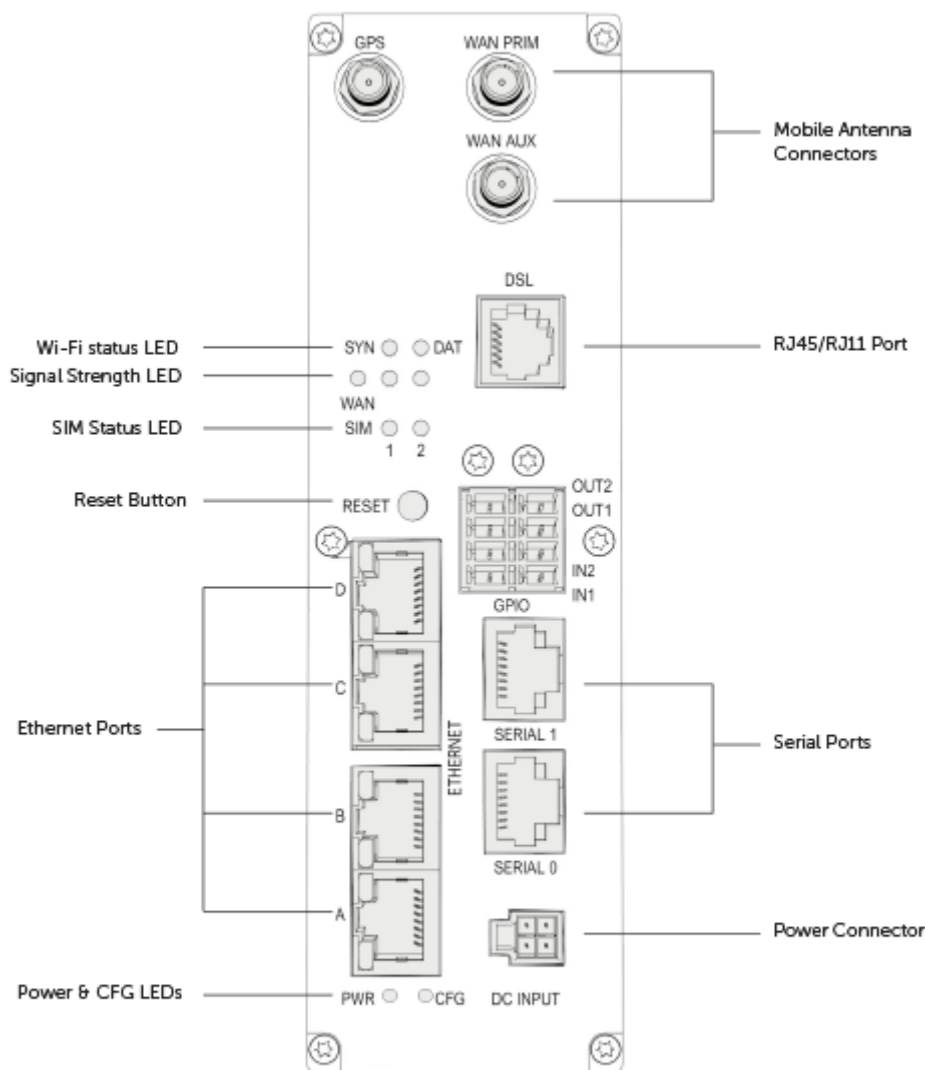
Dimensions	170mm (w) x 50mm (h) x 125mm (d)
Cellular Interfaces	Wireless WAN with 3G options
Weight	500g
Ethernet Interfaces	Two GbE Ethernet ports with option for four (PoE+ on up to four Ethernet ports)

DSL Interface	Intel/Lantiq VRX220 family chipset. Conforms to the following ITU standards: ITU-T, G.992.1, ITU-T, G.992.3, ITU-T, G.992.5, ITU-T, G.993.2
Wi-Fi	Concurrent dual band (2.4GHz & 5GHz) 802.11 a/b/g/n/ac, 2 x 2 MIMO
Digital Inputs	Relay contact outputs: 30V DC 1A normally open
Power Requirements	52-57V DC isolated input default
Serial Interface (Optional)	1 or 2 RJ45 ports configurable as RS232 or RS485
Leased Line (Optional)	2 wire ETSI EN 300 448, 4 wire V1.2.1, ETSI EN 300 451, 4 wire input and output ports 2 & 4 wire ITU-T M.1040 and ITU-TM.1020/1025
SIMs	2 x SIM card socket with cover
Antennas	2 or 4 cellular antenna SMA sockets
Approvals and Certificates	CE RED EN 60950 safety approval, EN 55022 and EN 55024 EMC, EN 300 328 V1.9.1, EN60068-2-32:2008, EN60068-2-27:2009, EN60068-2-64:2008, EN60068-2-27:2009

RF Band Options							
RF Band	Region	2G Bands	3G Bands	LTE Bands	LTE Bands	GPS	Order Code
QFC	-	-	B1/B2/B19/B8/B4/B5/B6/B9	B1/B2/B3/B4/B7/B8/B9/B12/B13/B18/B19/B20/B5/B26/B28/B41/B30/B66/B32/B46	12	Yes	QFC
RFW	EMEA, Korea, Thailand, India	3(900)/8 (1800)	B1/B8	FDD: B1/B3/B7/B8. TDD: B38/B40/B34/B39/B41	3	Yes	RFW
RFX	Australia	-	B1/B5	B1/B3/B5/B7/B28	4	Yes	RFX

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Troubleshooting

Before contacting CSL, please ensure you have

- IP Address/Router serial/CSL or site reference (provided at the point of order) Symptoms
- The time at which the incident became apparent
- Site location/access/contact details of where the incident is occurring.
- Details of checks that have already been made (see Troubleshooting section)
- Incident reference number (if applicable)

FAQs

ISSUE - THE SITE IS OFF-LINE AND THE ROUTER CANNOT BE CONTACTED ON EITHER PATH

Q - Is the Router powered?

A - The Power Adaptor LED and Router's POWER LED should both be on.

- If the Power LED is OFF when the Power Adaptor LED is OFF - the power source may be faulty. If the power source is ok then you may need to replace the power adaptor or mains cable.
- If the Power LED is OFF when the Power Adaptor LED is ON - replace the Router.

Q - Are all xDSL connections correct and are they working reliably?

A - If SYN & DAT indicators are OFF please check connectors are well seated. If connections seem ok swap the filter, cables or adaptors between the line socket and Router. Customer provided telephone line extension leads or sockets that are faulty may need to be checked and replaced.

Q - Is the xDSL path now ok?

A - The SYN indicator should be ON and stable and the DAT indicator should be ON but FLASHING to show data is passing through the Router.

- If the SYN is ON & DAT indicators is ON but not FLASHING then contact CSL Technical Support to confirm the Router's xDSL path has restored.
- If the SYN indicator is OFF - the Router may have recently been powered up or rebooted, wait a minute and recheck.
- If the SYN indicator persistantly drops out or begins FLASHING then the Router may be unable to sync or randomly re-syncing. If all checks have been made to remove any connection problems then retest with a spare Router, otherwise, contact the CSL Technical Support who will arrange for an xDSL test.

Q - Is the Router configured correctly?

A - The CONFIG LED should be on or off but not flashing. If the CONFIG LED is flashing then contact the M2M Support Team who will arrange the download of the site-specific configuration.

Q - Is the mobile radio path now ok?

A - Ideally, one or more signal strength LEDs should be permanently ON. If all Signal Strength LEDs are off it indicates no signal is available. If the signal strength is usually ok this could indicate there may be a local transmitter fault. Contact the CSL Technical Support if this is suspected.

ISSUE - THE SITE IS OFF-LINE BUT THE ROUTER CAN BE CONTACTED BY CSL

Q - Is the ethernet connection ok?

A - The Ethernet Port's Green LED is should be ON. If it is OFF, please ensure the connected equipment is powered, otherwise, disconnect and reconnect the Ethernet cable into the Router and equipment ports. If the issue persists then replace the Ethernet cable. If the problem persists even further, contact the CSL Technical Support who will arrange to check and confirm that the Router port is enabled and that the Router is configured correctly.

ISSUE - THE SITE IS ON-LINE BUT THE XDSL PATH IS UNAVAILABLE

Q - Are all xDSL connections correct and are they working reliably?

A - If the SYN & DAT indicators are OFF – check connectors are well seated. If connections seem ok swap the filter, cables or adaptors between the line socket and Router. The issue could also be the customer's telephone line extension leads or sockets are faulty – check these and replace if necassary.

- If the SYN is on & DAT indicators is on but not flashing then contact CSL Technical Support to confirm the Router's xDSL path has been restored.
- If the SYN indicator is off - the Router may have recently been powered up or rebooted, wait a minute and recheck.
- If the SYN indicator persistently drops out or begins FLASHING then the Router may be unable to sync or randomly re-syncing. If all checks in have been made to remove any connection problems then retest with a spare Router, otherwise, contact the CSL support who will arrange for an xDSL test.

ISSUE - THE SITE IS ON-LINE BUT THE MOBILE RADIO PATH IS UNAVAILABLE

Q - Is the signal ok?

A -Check the signal strength LEDs. Ideally, one or more Mobile signal strength LEDs should be permanently ON If both mobile signal strength LEDs are OFF – it indicates no signal is being recieved. Check antenna connection & cable. If the signal is usually ok there may be a local transmitter fault. Contact the CSL support if this is

suspected If a single mobile signal strength LED is OFF – it indicates a weak signal. The standard antenna may be inadequate. Contact the M2M support who will arrange a check to confirm whether the signal is suitable to ensure reliable operation. An external antenna or antenna relocation may be required If two or more Mobile signal strength LEDs are permanently ON - contact the M2M support to confirm the Router's radio path has restored.

A - The SYN indicator should be ON and stable & the DAT indicator should FLASHING if data is passing through the Router

Q - Are the more than two green signal strength LEDs are ON?

A - At least one green LED must be on for the radio to operate properly. If no LEDs are ON it indicates that no signal is available in the area or possible. Contact the M2M support if this is suspected.

Figure 2 - LED indications

	LED BAHVIOUR	STATUS
Power / CFG	Green - double flash	Router is booting after power up
	Green - flashing quickly	Router is in factory config mode
	Green - permanently on	Router has completed boot process and is ready

	LED BAHVIOUR	STATUS
SIM Status	Off	Router is not connected to a Mobile Data Network
	Green flashing	Router is attempting to connect to a Mobile Data Network
	Green on	Router has successfully connected to a Mobile Data Network

	LED BAHVIOUR	STATUS

Signal Strength	Green – off/off	No mobile radio signal detected
	Green – on/off	Low mobile radio signal detected
	Green – off/on	Medium mobile radio signal detected
	Green – on/on	Good mobile radio signal detected
	Green - on/flashing	Data activity is occuring via Wi-Fi