

## MOVA Quickstart Guide for UTM/ MOVA OTU and Stratos Outstation

This guide is designed to give an overview of setting up MOVA on a UTM/ MOVA OTU. It does not include how to connect to MOVA over IP, or how to configure/ download the MOVA Data set.

### Pre-requisites

- Users should have a working knowledge of the UTM/ MOVA OTU's basic functions.
- The site specific CSV file has been downloaded from the Instation Database (if required)
- The controller interface has been installed and tested previously.
- Users have a working knowledge of MOVAComm, IC4 controller Specifications, Connecting to equipment using IP Comms and use of Gemini Connect tool.

### Associated Documents

667/HB/31601/000	UTM OTU/MOVA Handbook	UTM OTU
667/CI/31601/000	UTM/MOVA Type2 OTU Setup Form	
667/HB/31760/000	GVP Reference Manual	
667/HB/46000/004	UTM OTU Handbook For ST950 And Stratos Outstation	Stratos OS

All product specific Siemens Software is available from: <http://www.siemens.co.uk/traffic/en/index/downloads.htm>

### Prior to setting up the MOVA IO:

- |   |            |
|---|------------|
| <ul style="list-style-type: none"> <li>• Connect to the UTM OTU using IP Comms (Ethernet or Gemini Connect), browse to the UTM OTU homepage. (667/HB/31601/000 Appendix B)</li> </ul> | UTM OTU    |
| <ul style="list-style-type: none"> <li>• Connect to the Stratos Outstation using Ethernet, USB Cable or Wifi Dongle, browse to the home page.</li> </ul>                              | Stratos OS |

### MOVA with UTM:

The Outstation only allows the Controller Ready Bit (CRB) to be passed to the MOVA application when **either**:

- It's being requested by the UTC Instation using the MO bit for that stream (Condition 1 will enable MOVA to send Force bits to the Traffic controller in place of the UTC control bits, condition 0 will select normal UTC control).

### **OR**

- It has no connection to the Instation (It's no longer receiving UTM Packets from the TCC, Network Failure)

While UTC is controlling the junction, the UTC TC bit is active and the F-bits are driven by UTC. Then when UTC sets the MO bit, this enables MOVA to take control, provided that the controller is setting MOVACRB active. Both MOVA and UTC use the same set of Control and Reply bits. The sequence is:-

- MO activated from UTC
- MOVA activates MR reply bit to UTC
- MOVACRB returned as active (provided that the controller is ready and sending the CRB bit)
- MOVA waits for next stage change
- MOVA activates MOVATO and appropriate F-bit to the controller
- MOVA activates ML reply bit to UTC

So, each MOVA stream must have:

- F (Force) bits (One per stage)
- G (Green Reply) bits (One per stage plus one per required phase confirms)
- MOVATO control bit (output)
- MO Control bit (Output, though this is not used by the controller)
- MOVACRB reply bit (Input)
- ML reply bit (Input, though this is generated by the OTU's firmware and does not come from the controller)
- MR reply bit (Input, internal as above)
- MF reply bit (Input, internal as above), tells the UTC Instation a MOVA Fault is in the Log.

The Detectors are mapped either for the site as a whole (MOVA 6/7) or on a per stream basis (MOVA7 Only)

Version	3	Page 1 of 4	Status	Released Full
Last Editor	Craig Cameron		Date	24 <sup>th</sup> September 2014
Document Name	MOVA Quickstart Guide for UTM/ MOVA OTU and Stratos Outstation		Doc. No.	667/HQ/31601/001

### On the OSE Config page of the OTU, EITHER:

- Import the site specific CSV file acquired from the Instation Database to the OSE Config, selecting the controller interface type (Freestanding or Serial Linked) to be used. (667/HB/31601/000: 6.2.3 & 6.11) **(Skip to Part 6 of Manual Set Up)**

OR

- Import a generated CSV file (when no UTC control required) **(Skip to Part 6 of Manual Set Up)**

OR

- Manually set up the Force and Reply bits on the OSE Config Page (when no UTC control required)

### Manual Set Up of Force and Reply:

- In the left panel of the OSE Config page, click the "Add Site" button, a site will appear below. (a separate site per stream is required)
- Rename the new site as your new stream and click the "Rename or Delete" button
- Click the "Edit" Button for the new site to open it in the main, central panel
- Use the "Add Bits Table:" section add the required F and G bits (Choose using the "Func" Drop down box and select Fn or Gn, press "Submit" to add to the table above)
- Once a bit has been added to the table, the "Card/Port" and "Bit" need to be assigned to map it to the correct Input/ Output (Press "Submit" after editing):

#### Semi Integral

Fn – csi.control.out.1 (The bit number will be in the IC4 configuration, UTC control and Reply Page)

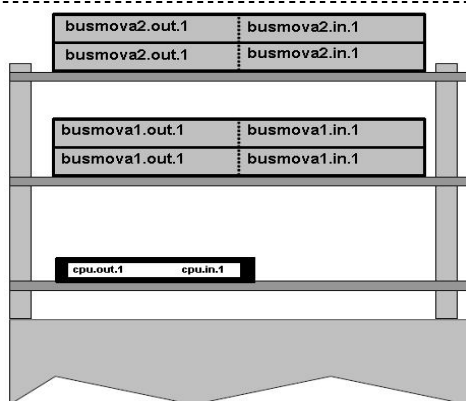
Gn – csi.reply.in.1 (Again, the bit number is found in IC4 Configuration)

#### Free Standing

Fn – busmova1.out.1 (bit number refers to the input number on port)

Gn – busmova1.in.1 (bit number refers to the input number on port)

UTMC OTU



Card 2

See 667/HB/31601/000:6.11 for detailed port list:-

Card 1

busmova1.in.1 48 inputs on I/O card 1  
busmova2.in.1 48 inputs on I/O card 2  
busmova3.in.1 48 inputs on I/O card 3  
busmova1.out.1 16 control outputs on I/O card 1  
busmova2.out.1 16 control outputs on I/O card 2  
busmova3.out.1 16 control outputs on I/O card 3

CPU Card

csi.control.out.1 32 control outputs to controller serial interface  
csi.reply.in.1 32 inputs from controller serial interface

Press to Add site below

Type Stream name and press to change.

Choose Bit type to add

Press to submit any change

Choose Output port

This is the input/ output number

Version	3	Page 2 of 4	Status	Released Full
Last Editor	Craig Cameron		Date	24 <sup>th</sup> September 2014
Document Name	MOVA Quickstart Guide for UTMC/ MOVA OTU and Stratos Outstation		Doc. No.	667/HQ/31601/001

- From the add bits table at the bottom, add the MOVATO bit and click "Submit". Ensure that the correct card and port are selected (in accordance with the controller config ) to connect the bit to the controllers MOVATO bit for the stream, and again click "Submit".
- Add the MOVACRB as above. (again in accordance with the controller config)
- Add the MO bit in the same way, though ensure that the output selected DOES NOT go to any function on the controller (on a serial linked controller just choose an unused control bit).
- Check that the MR, MF and ML bits are present, and that the "Card/ Port" is set to internal for all three (these bits are generated by the OTU, not the Controller).
- Check that there is a TC bit. (Even if this is not used by the controller).
- Click "Submit" at the bottom of the page, then "Save to File" in the left hand panel.
- Take note of the SCN at the top of the page (Site Name).
- Go to StatusConfig – MOVA Config, Enter the SCN from above in the relevant MOVA Stream on this page(Case Sensitive). This tells the MOVA Software where to find it's control and reply bits. Click "Save".

### When you are happy with all of the Streams:

- Import the MOVA.csv file (supplied in the GEMINI OTU/MOVA Firmware Packages) using the import function of the OSEConfig page (choose the correct type, Freestanding or semi integral). This will Import the MOVA detector mapping and will appear as a site called "MOVA". (For MOVA7, this can be on a per stream basis).
- Click "Save to File"
- Go to Status Config – MOVA Config, enter the LIN and LIF codes to enable MOVA. Click "Save".
- On the System page, switch on the MOVA application for each stream you require by clicking on the relevant "Start" button.
- Use MOVA Comms Software to interrogate each stream, ensuring all detectors, control and reply confirms are working as expected.
- Load the MOVA dataset and test as you would normally.

TC bit on the First Stream

MOVATO mapped to controller's MOVA Take Over

MO mapped to unused output.

MOVACRB mapped to CRB input from controller.

SCN copied, entered into MOVA Stream on Status Config – MOVA Config Menu

Function: This field dictates the function UTM is configured to perform on the controller or other street equipment via the selected bit. This field can only be changed when the bit is being added using the 'Add Bit Table'

Func?	No.?	UTC Offset?	Direction?	Card/Port?	Bit?	Invert?
TC	-	0	Output	csi. utc.to.out.1	1	<input type="checkbox"/>
MOVATO	-	0	Output	csi.control.out.1	4	<input type="checkbox"/>
F	1	1	Output	csi.control.out.1	1	<input type="checkbox"/>
F	2	2	Output	csi.control.out.1	2	<input type="checkbox"/>
MO	-	17	Output	csi.control.out.1	17	<input type="checkbox"/>
MOVACRB	-	0	Input	csi.crb.in.1	1	<input type="checkbox"/>
G	1	1	Input	csi.reply.in.1	1	<input type="checkbox"/>
G	2	2	Input	csi.reply.in.1	2	<input type="checkbox"/>
MR	-	17	Input	internal	17	<input type="checkbox"/>
ML	-	18	Input	internal	18	<input type="checkbox"/>
MF	-	19	Input	internal	19	<input type="checkbox"/>

MR, ML, MF are generated in the OTU software, set to internal.

Version	3	Page 3 of 4	Status	Released Full
Last Editor	Craig Cameron		Date	24 <sup>th</sup> September 2014
Document Name	MOVA Quickstart Guide for UTM/ MOVA OTU and Stratos Outstation		Doc. No.	667/HQ/31601/001

### Card/ Port Mapping

#### Semi Integral

Fn – csi.control.out.1 (The bit number will be in the IC4 configuration, UTC control and Reply Page)

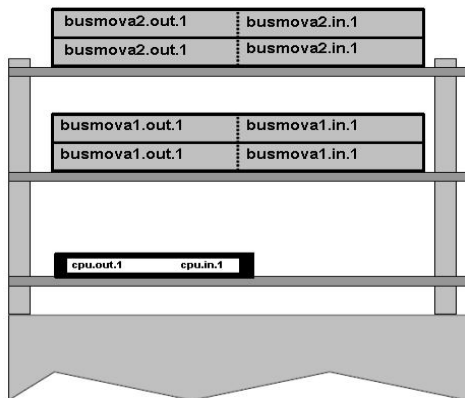
Gn – csi.reply.in.1 (Again, the bit number is found in IC4 Configuration)

#### Free Standing

Fn – busmova1.out.1 (bit number refers to the input number on port)

Gn – busmova1.in.1 (bit number refers to the input number on port)

UTMC OTU



#### Card 2

See 667/HB/31601/000:6.11 for detailed port list:-

#### Card 1

busmova1.in.1 48 inputs on I/O card 1  
busmova2.in.1 48 inputs on I/O card 2  
busmova3.in.1 48 inputs on I/O card 3  
busmova1.out.1 16 control outputs on I/O card 1  
busmova2.out.1 16 control outputs on I/O card 2  
busmova3.out.1 16 control outputs on I/O card 3

#### CPU Card

csi.control.out.1 32 control outputs to controller serial interface  
csi.reply.in.1 32 inputs from controller serial interface

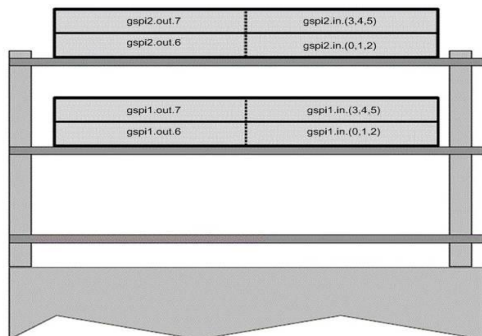
Choose Output  
port

#### Free Standing

Fn – busmova1.out.1 (bit number refers to the input number on port)

Gn – busmova1.in.1 (bit number refers to the input number on port)

Stratos OS



#### Card 2

gspl1.in.(0,1,2) 24 inputs on I/O card 1  
gspl1.in.(3,4,5) 24 inputs on I/O card 1  
gspl2.in.( 0,1,2) 24 inputs on I/O card 2  
gspl2.in.(3,4,5) 24 inputs on I/O card 2  
gspl1.out.6 8 control outputs on I/O card 1 PL1  
gspl1.out.7 8 control outputs on I/O card 1 PL2  
gspl2.out.6 8 control outputs on I/O card 1 PL1  
gspl2.out.7 8 control outputs on I/O card 1 PL2

#### Card 1

#### CPU Card

csi.control.out.1 32 control outputs to controller serial interface

Version	3	Page 4 of 4	Status	Released Full
Last Editor	Craig Cameron		Date	24 <sup>th</sup> September 2014
Document Name	MOVA Quickstart Guide for UTMC/ MOVA OTU and Stratos Outstation		Doc. No.	667/HQ/31601/001