COMMISSIONING PROTOCOL

ABOUT THE COMMISSIONING

PROJECT _____
DATE _____
LOCATION/TOWN _____
GPS COORDINATES LAT: _____
LONG: _____

ABOUT THE SENSOR

SENSOR MODEL: UMRR-0C ☐ TYPE 40 ☐ TYPE 42
UMRR-11 ☐ TYPE 44 ☐ TYPE 45 ☐ TYPE 132
(UMRR-12) ☐ TRUGRD ☐ TRUGRD Stream

APPLICATION: ☐ STOP+ADVANCE ☐ FORWARD+
☐ ENFORCEMENT ☐ RED-LIGHT ENFORCEMENT

SERIAL NUMBER _____
(To be found on the label, for example #0x00012345)

ABOUT THE SOFTWARE

FIRMWARE VERSION _____
(Right-click on the sensor in the TMC software)

TMC VERSION _____

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STEP 1/5: START THE PROJECT

Task	Completed?
1) Start the Traffic Management Configurator (TMC) software	
2) Load the .tisf project which contains the configuration for the radar sensor	☐

STEP 2/5: SENSOR COMMUNICATION

Task	Details	Completed?
3) Select "Communication / Connections"	In the TMC	
4) Choose the communication option	☐ RS485 or ☐ Ethernet	
5) Enter the serial number of the sensor	Serial no.: _____	☐
6) If you choose Ethernet, the default IP address will be allocated automatically	IP address: _____	☐
7) Visit "Communication / Test" and make sure it succeeds	It should show the message "Sensor found. You can now proceed with the installation."	☐

STEP 3/5: SENSOR POSITION

Task	Details	Completed?
8) The mounting height should be between 4 and 8m (between 13 and 26ft)	Mounting height: _____	☐
9) An azimuth angle (horizontal angle between the outer line of the road and the direction of the sensor) of up to ±10° is ideal.[1]	Azimuth angle: _____°	☐
10) Select "Guided Alignment / Elevation and Roll"	In the TMC	
11) The pitch angle (elevation) should ideally match between the upper and lower box with ≤0.5° deviation (≤1° is acceptable)	Pitch angle: _____°	☐
12) The roll angle (orientation) should ideally be <±0.5° (<±1° is acceptable)	Roll angle: _____°	☐

[1] Up to 15° are recommended for narrow-beam models, up to 20 ° are recommended for wide-beam models.

STEP 4/5: SAVING CONFIGURATION

Task	Completed?
13) Select "Guided Alignment / Save Configuration" in the TMC	
14) Click "Apply settings" to upload all setup configurations to the sensor	☐
15) Make sure the message "Sending parameters was successful" is displayed	☐

STEP 5/5 PERFORMANCE VERIFICATION

Task	Details	Completed?
16) a) **Stop bar performance verification**: Please check that the radar detects at least 9 out of 10 stopped vehicles in the first row	Detected (total): _____ Stopped (total): _____ Stop bar performance verification test ends here.	☐
16) b) **Traffic counting verification**: Go to "Views / Interpreted CAN Data Views / TM Statistics Viewer / Counting Results Tab"		
17) Start counting right after an update is received and choose right-click clear data. Count 100 vehicles or for 10 minutes, whatever comes first. Continue counting until the next data update is received.	The data update timer can be shown by right-clicking on the radar on the map and selecting the statistics tab. Recording/time slot used for verification: From _____ to _____ (hh/mm/ss)	☐
18) Compare the number of objects reported by the radar to the number of objects counted manually to calculate the accuracy: $100 - \frac{(man.count - radar\ score)\ x\ 100}{man.count}$ The detection accuracy should typically be >95%	Detection accuracy Direction 1: _____% Direction 2: _____%	☐

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