OTF302 and MCA101x parameters reading and configuration using dSCR programmer PC102W

■ Installation instructions

Connect the 20 V AC/DC adapter to the DC IN input of the PC102W programmer. Connect OTF302 to the programmer's RF IN / DC OUT powering port. The green status LED on the top programmer's case should start blinking with very short pulses.

Open the WiFi connections window on your laptop, tablet or smartphone. WiFi device with SSID of PC102W should appear in the list. Click "Connect". The connection password is 1234567890. After a successful connection, the green status LED should start blinking with long pulses.

Open the WEB browser and enter 192.168.3.1 in the address bar. A configuration WEB page of PC102W should appear.

■ Adjusting parameters of OTF302 and MCA101x devices using programmer PC102W

Using the dSCR programmer PC102W you can monitor OTF302 and MCA101x unit's status parameters and change various configuration parameters. Complete "Common configuration steps" before proceeding to the next device configuration procedures.

Common configuration steps

Step 1. Open PC102W user interface. Press on the main menu dropdown list and select "Structure".

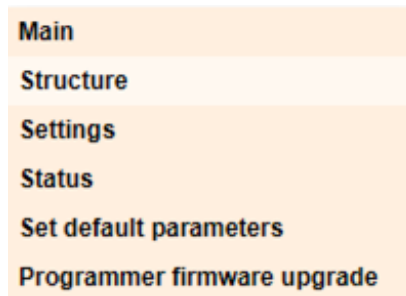| Main |
| Structure |
| Settings |
| Status |
| Set default parameters |
| Programmer firmware upgrade |

Figure 1. Main menu options list

Step 2. The device settings screen will appear. Select "OTF302" or other device model that is connected to PC102W from the dropdown list in the "dSCR model" table. This step is optional and may be used if the exact connected device model is known. Otherwise, the device model will be identified automatically after the "Get" button is pressed as explained in later step 4.
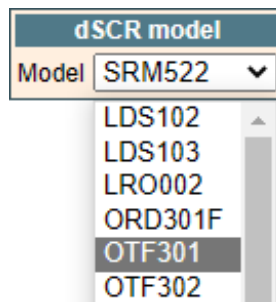
dSCR model
Model SRM522
- LDS102
- LDS103
- LRO002
- ORD301F
- OTF301
- OTF302

Figure 2. List of supported dSCR devices

Step 3. Select the satellite letter from the dropdown list which was assigned to the connected unit before. The factory default value is "Satellite A". In this step, you don't need to press the "Set" button at the bottom of the "Configuration" menu table.
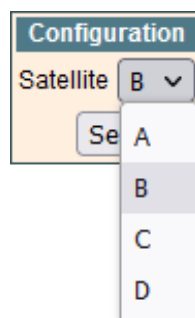
Configuration
Satellite B
Se A
B
C
D

Figure 3. Satellite select menu table

Step 4. Press the "Get" button on the top of the configuration screen. A progress bar indicating command transmission progress will appear shortly. Wait a few seconds until the operation completes.

Figure 4. Menu button for receiving device configuration

The device model will be identified automatically, regardless of the selection you made in step 2. If an incorrect satellite letter was selected in step 3, a message about DiSEqC communication error will appear, and the device parameters reading process will fail.

Assigning OTF302 to satellite A/B/C/D

This procedure will assign satellite letters "A", "B", "C" or "D" to the optical transmitter OTF302. This allows simultaneous connection and monitoring of up to four OTF302 transmitters and one MCA101x (via OTF302) to one PC102W programmer. Only one device to the PC102W programmer's RF IN DC OUT powering port must be connected during the configuration procedure. Once all devices are configured, they can be connected simultaneously to the PC102W programmer. All transmitters, connected together must have their own unique satellite letter.

Configuration steps

Step 1. In the "Configuration" menu table select the satellite letter from the dropdown list. Choose the satellite and press "Set" at the bottom of this menu table.
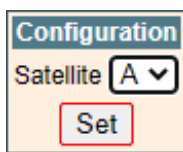

Figure 5. Satellite assigning menu table

Step 2. On the top of the screen are buttons "Save/Set/Get" for sending and receiving the device configuration. Click "Set" button to send the configuration to the connected device. A progress bar indicating command transmission status will appear. Wait until the operation completes.

Figure 6. Menu button for sending device configuration

Change OTF302 Optical Modulation Index (OMI) factor

Different satellites may have a different number of SAT channels, so in some cases it may be necessary to adjust the OMI factor parameters. The factory default value is "1.0" and is optimal for most applications, when the number of SAT channels is between 54 and 68 in each of the V and H polarizations. Adjust this setting carefully if necessary and follow the guidelines in parentheses "()" where the recommended range of SAT channel number is shown.

NOTE: if the value is set incorrectly, the performance of the optical signal of the device will be significantly degraded. Ensure that OTF302 device unit has software version v1.06 or higher. Otherwise, OMI factor parameter adjustment will not work.

Configuration steps

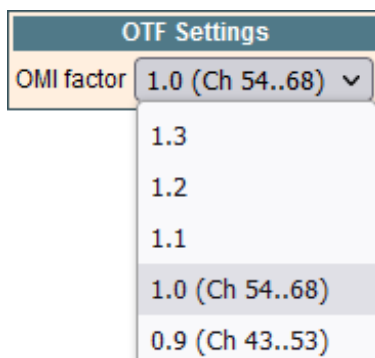**Step 1.** Select the correct "OMI factor" value from the dropdown list in the "OTF settings" table.

Figure 7. OTF OMI factor values dropdown list

. Click on the "Save" button on the top of the configuration screen as shown in Figure 8. A progress bar window will appear shortly. Wait a few seconds until a command is completed.

Figure 8. Menu button for configuration saving

. Send the new parameter's value to the connected device by clicking on the "Set" button on the top of the configuration screen as shown in Figure 9. A progress bar window will appear shortly. Wait a few seconds until a command is completed.

Figure 9. Menu button for configuration sending

Change of MCA101x UHF channels number remotely

The MCA101x UHF channel count parameter can be changed remotely using the dSCR programmer PC102W. Note that the rotary switch of the number of UHF channels on the MCA101x must be in the "0" position. Otherwise, it will not be possible to adjust this parameter remotely. The MCA101x unit must be connected to the DTT port of the OTF302 unit as usual.

Configuration steps

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- If MCA101x UHF channels number rotary switch is in position 1..15:

The parameter field "UHF channel number" will show the position of the rotary switch. The automatic gain control of the RF input channels will be adjusted according to the value of the rotary switch position itself. In this case, the parameter editing field is disabled and the UHF channel number cannot be adjusted remotely.
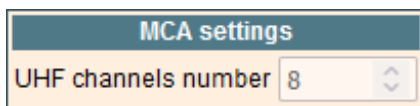

Figure 10. MCA101x UHF channels number parameter showing rotary switch position

- If MCA101x UHF channels number rotary switch is in position 0:

The parameter "Number of UHF channels" will show the last remotely set and currently in use value of the number of UHF channels.
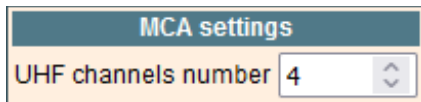

Figure 11. MCA101x UHF channel number parameter

Adjust the value of "UHF channels number" parameter field in the "MCA settings" menu table according to the number of UHF channels that exists in the UHF band.

. Click the "Save" button on the top of the configuration menu screen as shown in Figure 12. A progress bar window will appear shortly. Wait a few seconds until a command is completed.

Figure 12. Menu button for configuration saving

. Send the new parameter's value to the connected device by clicking the "Set" button on the top of the configuration screen as shown in Figure 13. A progress bar window will appear shortly. Wait a few seconds until a command is completed.

Figure 13. Menu button for configuration sending

NOTE: after adjusting MCA101x channels number rotary switch position or sending a new "UHF channels number" value to the connected device it is required to wait at least 5 seconds for changes to take effect.

■ Status parameters monitoring

Select "Status" from the main menu dropdown list ☰ of PC102W user interface. Tables with device status parameters will appear shortly.

Device information

Device model	**PC102W**
Serial number	**PC102W0017110005**
Software version	**1.24**
Hardware version	**1.1**
MAC address	**00 1C A3 00 33 2A**
IP address	**192.168.3.1**
Up time	**5:11:44**

DC parameters

Power voltage,V	**20.6**	← Voltage supplied to PC102W
Input voltage,V	**18.7**	← Voltage supplied to OTF302
Output voltage,V	**18.3**	
Load current,A	**0.215**	← Current consumption of OTF302

SAT A dSCR device information

Model	**OTF302 6F31 E 6 dBm**	← Device model, laser type and optical power
Serial number	**OTF3020023030001**	
Software version	**1.5**	
Hardware version	**1.1**	
Up time	**0:03:42**	

SAT A OTF status

SAT input level per channel, dBuV	**70**	← RF input power per channel on V input
DTT input level per channel, dBuV	**92**	← RF input power per channel on DTT input of OTF302
V_IN voltage, V	**13.5**	← Voltage supplied to V input
H_IN voltage, V	**17.9**	← Voltage supplied to H input
DTT_IN voltage, V	**17.4**	← Voltage supplied to MCA101x via DTT input
Laser status	**OK**	← Laser status. Every laser degradation step of 20% will be indicated like "Aging 20%" until 100% will be reached. Aging calculation is based on laser current.
Internal temperature, deg.C	**32**	

MCA status

Model	**MCA101T**	← Device model
UHF RF level per channel, dBuV	**80**	← RF input power per channel on UHF input
Supply voltage, V	**17.7**	
Internal temperature, deg.C	**29**	