TU 7685.010- R2.1x Specification

The DEFAULT values are correspondent to the factory calibration values.
Parameters marked by " * " can be modified in the Configuration procedures.

In red color the additional specification of the new software release

	DEFAULT
1) OPERATING MODE	
Automatic/Measuring/Simulation	Auto
2) TURBIDITY READOUT	
Probe types: TU810 - TU8105 – TU8182 – TU820	
* Measuring unit: NTU / mg/l	NTU
* Range:	
Low range High range	
4/400 NTU - 40/4000 NTU (only for the TU81xx probe)	4/400
4/40 mg/l - 40/400 mg/l PSL	4/400
9/999 mg/l - 99/9999 mg/l SiO2	9/999
The TU82xx EPA features the low range only	
* Input scales (depending of selected range):	
Range 4/400 NTU – 4/400 mg/l PSL - 9/999 mg/l SiO2	
0/4.000 - 0/40.00 - 0/400.0 NTU	4.000 NTU
0/4.000 - 0/40.00 - 0/400.0 mg/l PSL	4.000 mg/l
0/9.999 - 0/99.99 - 0/999.9 mg/l SiO_2	9.999 mg/l
Range 40/4000NTU - 40/4000mg/l PSL - 99/9999 mg/l SiO2	
0/40.00 - 0/400.0 - 0/4000 NTU	4000 NTU
0/40.00 - 0/400.0 - 0/4000 mg/l PSL	4000 mg/l
0/99.99 - 0/999.9 - 0/9999 mg/l SiO_2	9999 mg/l
Resolution: 0.05% of scale	
* Auto ranging: Off/On	On
Software filter 90% RT:	
* Large signals: 5"/220"	40"
* Small signals: 5"/220"	120"
Zero calibration: (automatic/manual)	Automatic
Zero (auto) at 0.02 NTU: +/- 10% of lower scale of the selected range	0.0 %
Zero (manual): +/- 0.4 NTU same in all of scales	0.0 NTU
Sensitivity of the Range 4/400NTU: 80.0%/120.0%	100 %
Sensitivity of the Range 40/4000NTU: 80.0%/120.0%	100 %
Standard solutions recognized by the unit:	

	2.000NTU - 20.00 NTU - 200.0 NTU - 2000 NTU	
	1.000mg/l - 10.00mg/l - 100.0mg/l – 1000mg/l	
	5.000mg/l- 50.00 mg/l- 500.0 mg/l- 5000 mg/l	
	Limits of automatic recognizing the Standard solutions: +/- 20 %	
3)	CHECK SIGNAL	
*	Check signal readout: On/off	On
	Measuring value: 0.0%/220.0%	
	Sensitivity: 50.0%/200.0%	100.0%
	Alarm for dirty probe or burned lamp: 0.0%/100.0%	10.0%
	Alarm for lack of liquid in the cell: 100.0%/200.0%	200.0%
	Delay: 0.0"/99.9"	10.0"
	Alarm conditions: in OR on Relay C	
4)	SET POINT A/B (relays A and B)	
	Action: ON-OFF	
	Set point value: 0 to full scale as selected	0 NTU
	Hysteresis: 0/10 % of the scale	0.010 NTU
	Relay delay: 0.0/99.9 s	0.0 s
*	Function: HI/LO (Max/Min)	LO
	Relay contacts: SPDT 220 V 5 A Resistive load	
5)	ALARM (relay C)	
	Low value: from 0 to full scale	0.000 NTU
	High value: from 0 to full scale	4.000 NTU
*	Alarm on max. SA: ON/OFF	OFF
*	Max. time SA: 0/60 minutes	60 m
*	Alarm on max. SB: ON/OFF	OFF
*	Max. time SB: 0/60 minutes	60 m
*	Alarm on external light too high: ON/OFF	OFF
	Delay: 0.0/99.9 s	0.0 s
*	Contact type: ACT/DEA (DEA needs an internal jumper)	ACT
*	Alarm type: Continuous/Flashing	CONT.
*	Frequency of flashing alarm: low/medium/high	MEDIUM
	Relay contacts: SPDT 220 V 5 A Resistive load	
6)	AUTOCLEAN (relay D)	
*	Action: Off/Manual Clean/Auto+Manual Clean	Off
	Auto Clean (Manual):	
	Repetition of cycle: 0.1/24.0h (only for Auto)	24.0 h
*	Cleaning time: 0.5/60.0"	15.0"
*	Holding time: 0.1'/20.0' (to be added to the cleaning time)	3'
	(analog output in holding, A,B,C relays deactivated)	

Relay contacts: SPST (N.O.)	
7) ANALOG OUTPUT Nr. 1	
* Range: 0-20/4-20 mA	0-20 mA
0/4 mA analog output fine adjustment: +/- 0.3 mA	0.00 mA
* Point 1 (out 0 or 4 mA): 0 to full scale	0.000 NTU
* Point 2 (out 20 mA): 0 to full scale	4.000 NTU
Response time: 10 s for 98%	
Isolation: 250 Vac	
R max: 600 Ω	
8) ANALOG OUTPUT Nr. 2 (option 091.3711)	
* Range: 0-20/4-20 mA	0-20 mA
0/4 mA analog output fine adjustment: +/- 0.3 mA	0.00 mA
* Point 1 (out 0 or 4 mA): 0 to full scale	0.000 NTU
* Point 2 (out 20 mA): 0 to full scale	4.000 NTU
Response time: 10 s for 98%	
Isolation: 250 Vac	
R max: 600 Ω	

9) SERIAL COMMUNICATION (option 091.701)

Baud Rate: 4800 bit/s
Bit length: 8 bit
Nr. of Stop bit: 1
Parity: None
Isolated from measure circuits
Data frequency: at each readout update

Data format:

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'   ±x.xxx   NTU      ±x.xxx %
 . . . . + . . . . | . . . . + . . . . | . . .          If Check signal is  ON


'   ±x.xxx   NTU
 . . . . + . . . . | . . .                             If Check signal is OFF
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followed by characters CR LF.

±x.xxx NTU (mg/l): Turbidity values
±xxx.x %: Check signal values

10) CONFIGURATION (*)

Free calibration (Access code not required):	
Keyboard locked/unlocked	unlocked
LCD contrast (0/7)	4
Access code number required for:	0
Type of probe: TU81xx / TU82xx (EPA)	TU81xx
Measuring unit: NTU, mg/l PSL,mg/l SiO2	NTU
PSL / NTU coefficient: 1.000/1.200	1.164
SiO2 / NTU coefficient: 2.500/3.500	2.500
Range: 4/400 NTU, 40/4000 NTU for probe TU81xx	4/400 NTU
Range: 4/400 NTU for probe TU82xx (EPA)	4/400 NTU
Scale: 4.000/40.00/400.0/4000 (4000 for TU81xx only)	4.000 NTU
Auto range: On/Off	On
Large signal RT filter SW: (5/220)	40 s
Small signal RT filter SW: (5/220)	120 s
Output Nr.1 range: (0/20 4/20)	0/20 mA
Point 1 (for 0 or 4 mA): (0 to full scale)	0.000 NTU
Point 2 (for 20 mA): (0 to full scale)	4.000 NTU
Output Nr.2 range: (0/20 4/20) (option 091.3711)	0/20 mA
Point 1 (for 0 or 4 mA): (0 to full scale)	0.000 NTU
Point 2 (for 20 mA): (0 to full scale)	4.000 NTU
Relay A function: (LO/HI)	LO
Relay B function: (LO/HI)	LO
Alarm on max. operating time of SA: (ON/OFF)	OFF
Max. operating time of SA: (0/60)	60 m
Alarm on max. operating time of SB: (ON/OFF)	OFF
Max. operating time of SB: (0/60)	60 m
Alarm on external light too high: (ON/OFF)	OFF
Delay: (0/99 s)	10.0"
Alarm relay status: (ACT/DEA)	ACT
Type of alarm: Flashing/continuous	CONT.
Flashing alarm frequency: LO / ME / HI	ME
Cleaning function: (Auto/Manual/Disabled)	Disabled
Cleaning time: (0.5/60.0)	15.0 s
Holding time: (0.1/20.0 min.)	3.0 min
Access number: 0/999	0

11) GENERAL SPECIFICATIONS

Alphanumeric display: 1 line x 16 characters
Acquisition time: 0/50°C
Humidity: 95% without condensation
Power supply: 110/220 Vac +/- 10 % 50/60 Hz
Isolation: 4000 V between primary and secondary (IEC 348)
Power: 5 VA max.
Terminal block: extractable
Weight: 850 g
Dimensions: 96 x 96 x 155 mm. (DIN 43700)

DESCRIPTION OF THE ADDITIONAL FEATURES

1) Alarma relay flashing/continuous
2) The new scale in mg/l PSL has replaced the PPM scale
3) Insertion of the adjustable coefficient for mg/l/NTU both PSL and SiO2
4) Operating mode SIMULATION
5) On/off of the hold of the analog output during the calibration
6) Fine adjustment of the value of the analog outputs
7) Selection of the probe TU81xx ISO or TU82xx EPA

There are also two hided functions for:
- changing of the current in the lamps
- Selection of the sending interval on the RS232 option

Notes

1) the hold during the calibration has to be activated before the calibration and deactivated after the calibration by the operator.
2) If it is selected the auto zero calibration the unit will take the value 0.02 NTU.The calibration start from the lower scale of the range and can be performed in all the scale.
3) During the zero calibration the unit will make the average of the measuring starting from zero, so depending of the filter software value it will take a while to stabilize. Same effect after the calibration it is necessary wait fort he readout stabilization before getting the right measuring value.
4) During the calibration the relays will maintain the previous status
5) To calibrate the fine adjustement of the analog output, go to the display of the 01 out and 02 out, press cal to visualize the previous adjustment, then press CAL again to access the adjustment through the up/down keys.
6)