

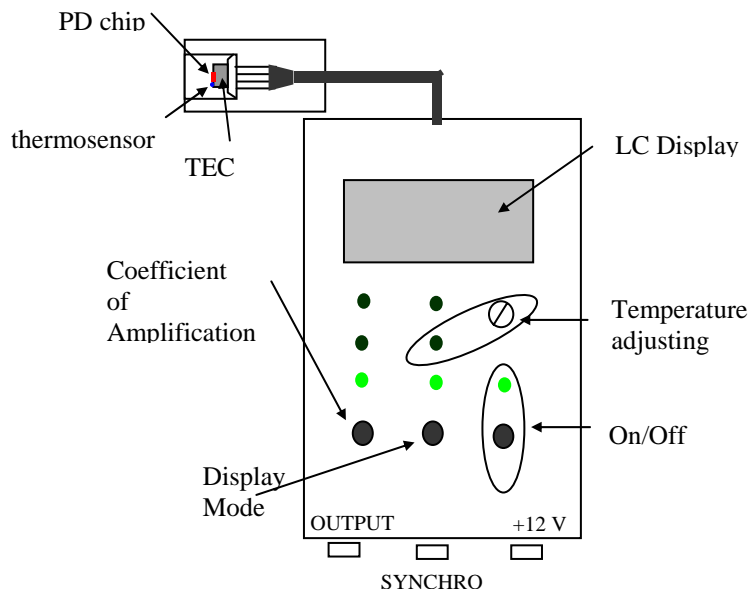
AMPLIFIER for PHOTODIODES 2.4; 3.6 μm

PD Amplifier & Temperature Controller Model AMT-07

- Amplifier **AMT-07** converts the current output of a signal source such as for example Mid-Infrared photodiode, into a voltage output with amplification of the voltage for subsequent use with various electronic systems, like lock-in-amplifiers, oscilloscopes or A/D converters. In the same package is included also Sinchrodetector that gives direct current proportional to the signal at selected frequency. Customer can see the signal on LC Display.
- Amplifier **AMT-07** is designed for operation with photodiodes with built-in thermocooler and thermistor (Models PDXX-XX-TEC). Customer can select and set the temperature of PD operation. Circuit with feedback will set the necessary thermocooler current for maintaining the selected temperature.

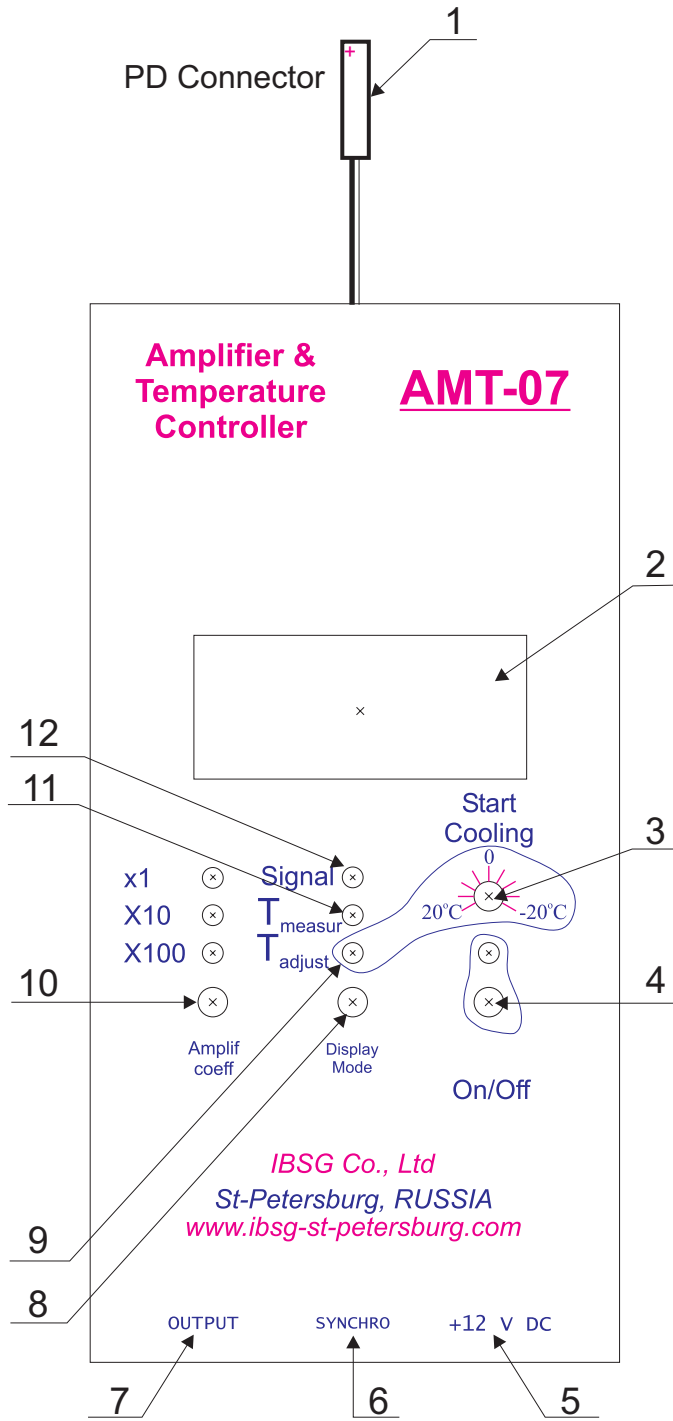


Parameters	
Bandwidth (measured with PD24-20)	0,5 kHz - 1 MHz
Coefficient of amplification (meas. with PD24-20)	$6,4 \cdot 10^6$ V/A
Maximum Output	+/- 4 V
Output Impedance (optimum)	50 Ohm
Temperature range	-10 - +30 $^{\circ}\text{C}$
Package Dimension	80x40x22 mm
Power Requirements	+12 V DC



LC Display can be switched to work in one of three possible modes:

- 1) LC Display shows amplified signal after synchrodetecting.
- 2) LC Display shows installed temperature
- 3) LC Display shows real measured temperature on photodiode chip



SUPPLEMENT 2.

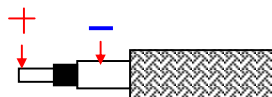
Operating instruction for AMT-07 for PDs with thermocoolers (PDXX-TEC and PDXX-TEC-PR models)

1. Insert a PD with thermocooler into connector "PD" (1) (Please see the SUPPLEMENT 1) till fixation Please check that:

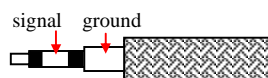
✓ Pin with red point on the PD package is combined with appropriate jack of connector "PD" (1) with red point.

2. After the placing of a PD into connector "PD" (1), please take and replace the big aluminium cylindrical package in the direction from driver package against stop. Thus the whole LED must be placed inside big aluminium cylindrical package. After that, please, screw the aluminium cylindrical package with two small screws on it.

3. Insert AC/DC adapter into connector "+12V DC" (5) (Attention on voltage polarity).



4. Take the synchro cable (enclosed one piece to the DLT-27 – AMT-07 system) and unite the "SYNCHRO" out of DLT-27 with the "SYNCHRO" out of AMT-07. Below is given polarity of this cable.



5. If you want to see the form of signal from photodiode on the oscilloscope you can connect the oscilloscope "Input" and "Output" of AMT-07 with cable.

AMT-07 is ready for work right away after the connecting of adapter.

6. Switch "Display Mode" (8) to the position " T_{adjust} " (9). Green LED on this position will light.
7. Select temperature of PD's operation by adjusting on Switch " T_{adjust} " (3). We recommend to use working temperature around +10 °C. Maximum temperature at cooling on is +15 °C and minimum temperature is -15 °C. You will see on the LC display (2) selected temperature.
8. Switch "Display Mode" (8) to the position " T_{measur} " (11). You will see on the LC display (2) real (measured) temperature on the PD chip.
9. Switch on thermocooler with switch "On/Off" (4). Green LED (4) will indicate that cooling is working. You will see new measured temperature on the PD's chip on LC display (2).
10. Switch "Display Mode" (8) to the position "Signal" (12). You will see the amplified detected signal from photodiode. With button "Amplif.coef" you can change the coefficient of amplification.