Warning!

Please read the user manual included in this work as it contains important information related with safety of installation and use of the device.
Only persons who read the user manual may use the device.
The user manual must be kept because it may be required in the future. The device is to be used exclusively for purposes specified in this user manual.
The device must be unpacked prior to starting-up. After removing the packaging make sure the device is in working order.
If the product has defects, it should not be used until it is repaired.
The product is intended for use at home and commercial use and may not be used for other than intended use.
The manufacturer is not liable for damages resulting from not adhering to the rules contained in the user manual, therefore, we recommend to follow the aforementioned safety rules for operation and maintenance of the device. In this way you will ensure yourself safety and avoid causing damage to the device.
The manufacturer and the supplier are not liable for losses or damages arising out of the product, including financial or intangible losses, loss of profits, income, data, pleasure from use of the product or other products related with it - indirect, incidental or consequential loss or damage. The above provisions apply whether the loss or damage concerns:
1. Deterioration of quality or the lack of operation of the products or products related with it due to damage as well as the lack of access to the product when it is undergoing repair, which results in stoppage the loss of user's time or a break in business activity;
2. Improper results of operation of the product or products related with it;
3. It applies to losses and damages according to any legal category, including negligence and other losses, termination of a contract, expressed or implied guarantee and strict liability (even if the manufacturer or the supplier was notified about the possibility of occurrence of such damages).

Safety measures:
Particular attention at designing was directed to quality standards of the device where ensuring safety of operation is the most important factor.
The device must be secured against contact with caustic, staining and viscous fluids.

The device was designed in such a way that it restarts operation when power supply is restored after a break.
Attention! We recommend using protections to further protect the device from possible overvoltages in installations. Surge protectors are effective protection against accidental pass to the device voltages higher than the rated. Damages caused by pass the voltages higher than specified in manual, are not under warranty.
Turn off the device before transporting it.
Prior to connecting the device to a power source check whether the supplied voltage is consistent with rated voltage specified in the user manual.

Proper product disposal:
A marking of a crossed out waste bin indicates that the product may not be disposed together with other household waste in the entire EU. To avoid possible damage to the natural environment of health due to uncontrolled waste disposal, therefore, it should be handed over for recycling, propagating in this way sustainable use of natural resources.
To return a worn-out product, use a collection and disposal system of this type of equipment or contact a seller from whom it was purchased. He will then be recycled in an environmentally-friendly way.

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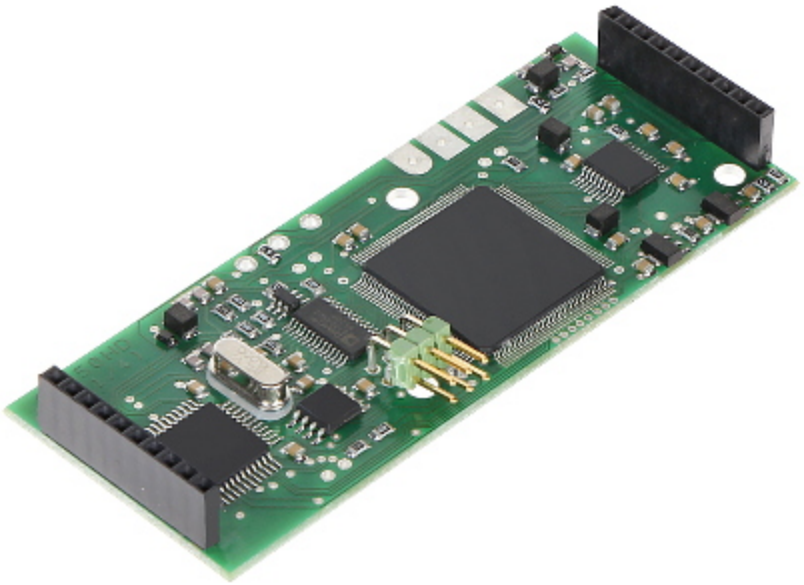
User Manual

Code: OSD-50HD

CHARACTER GENERATOR **OSD-50HD**

The device is designed to display alphanumerical characters, raster graphics and vector graphics on the image from camera.
The OSD-50HD is produced as a PCB and dedicated for devices, where simultaneous observation of the image is required as well as the reading of data sent from the sensors placed in the device. Assuming OSD-50HD cooperation with such solutions as Arduino or Nucleo, we recommend using the PORT-22 converter in addition.
From the video signal the OSD-50HD operates as a loop-through device, equipped with signal input and output. The device control protocol can be found in the technical documentation.
For more information about OSD systems, visit www.osd.systems



Supported standards:	AHD, HD-CVI, HD-TVI
Video signal amplification:	0 dB
The ability to change the font and create own table of graphic characters:	✓
Built-in KF ptotocols (cash registers):	–
Possibility to add KF protocols (cash registers):	–
Vector graphics support:	✓
Raster graphics support:	✓
The ability to firmware upgrade:	✓
PCB casing:	–
Built-in stabilizer:	–
Communication:	UART 3.3 V
Communication using optional devices:	PORT-22
Maximal number of characters in one line:	50
Maximal number of lines:	40
Maximum number of characters on the screen:	2000
The ability to change font size:	✓
The ability to change the position of the titles:	✓
Cross generator:	✓
Keyboard lock:	–

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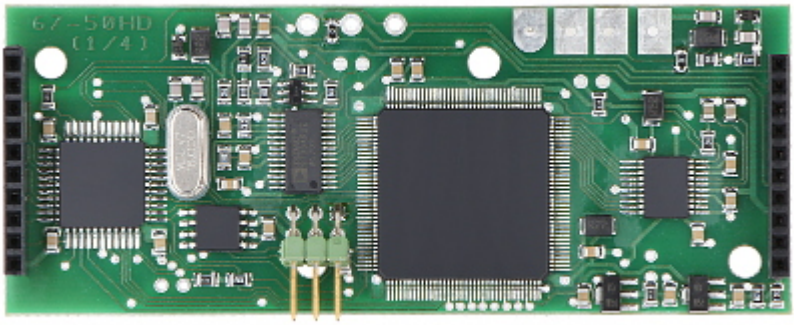
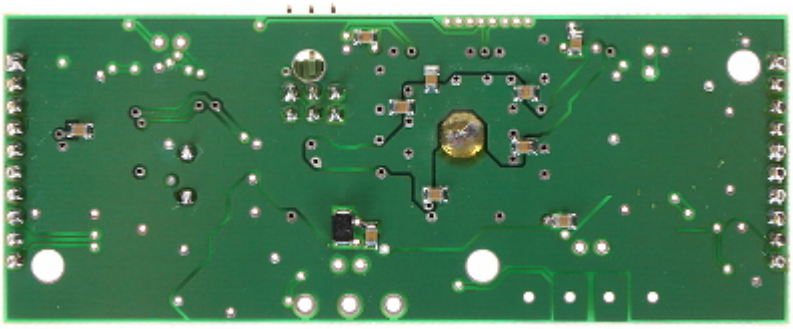
Power supply:	• 3.3 V DC • Powering from PORT-22
Current consumption:	240 mA (both inputs: 3V3A and 3V3D)
Support:	• the SG-1 mode – the protocol of SG-1 device operating in symbols display mode, ability to implement custom protocols • character terminal mode and hexadecimal displaying • You can customize the software to your needs, such as adding a new communication protocol that supports other devices than specified
Weight:	0.02 kg
Dimensions:	91 x 36 x 11 mm
Manufacturer / Brand:	DELTA
Guarantee:	**3 years**

Top view:

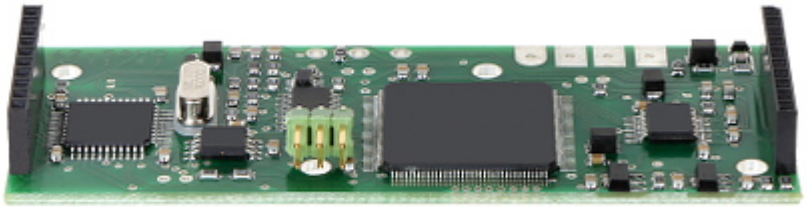


Bottom view:

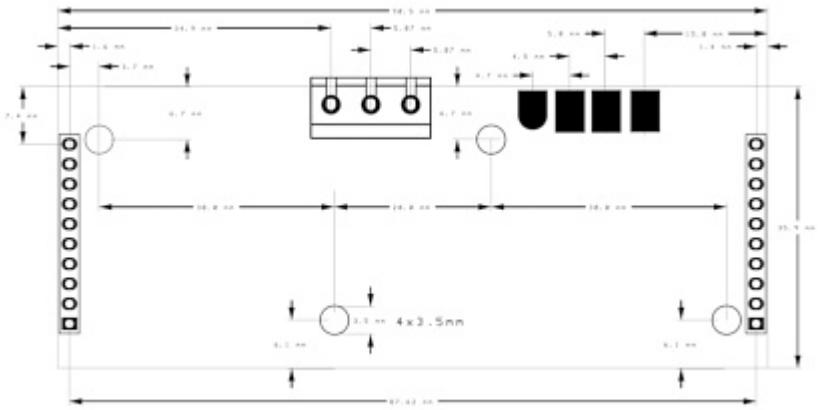


Front view:

Connectors:



Dimensions:



Example of application:
The OSD-50HD supports the PORT-22:

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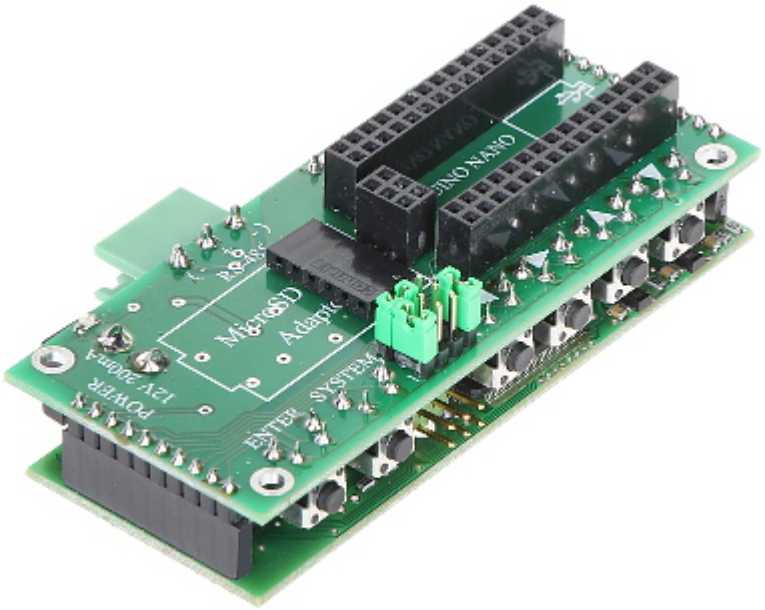
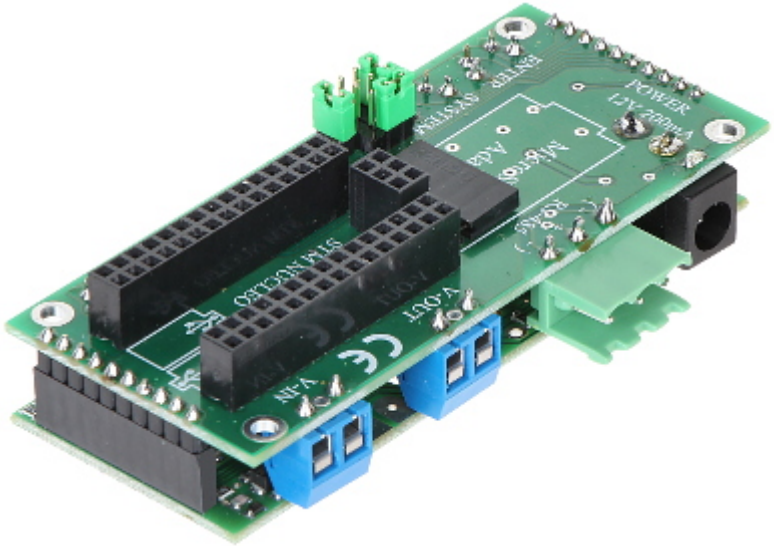
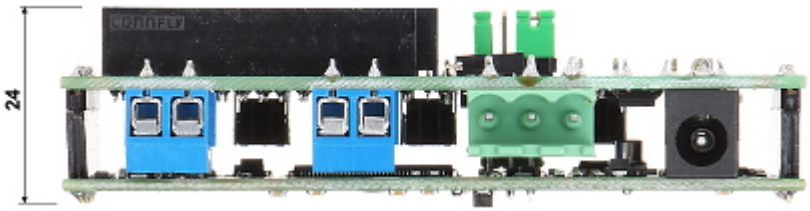
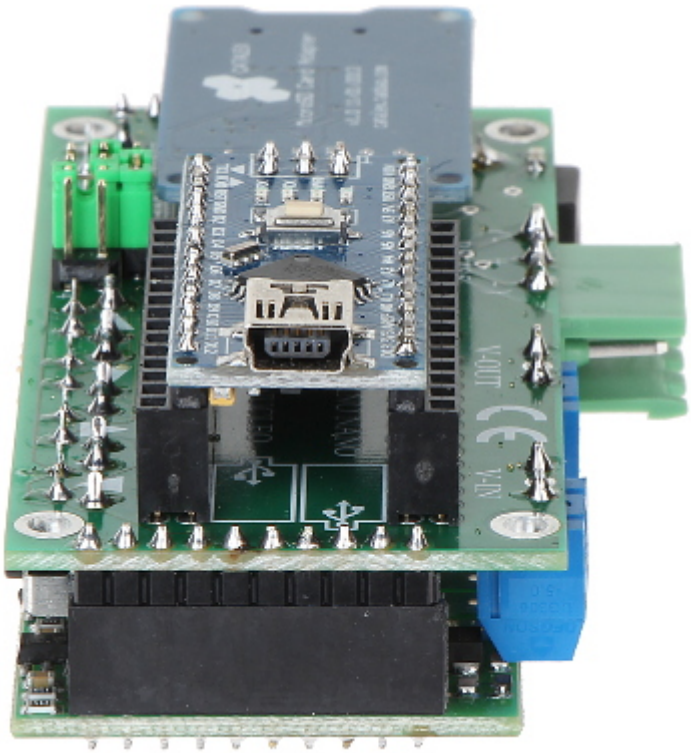






Cooperation the OSD-50HD with the PORT-22 and installed Arduino with microSD memory card slot:



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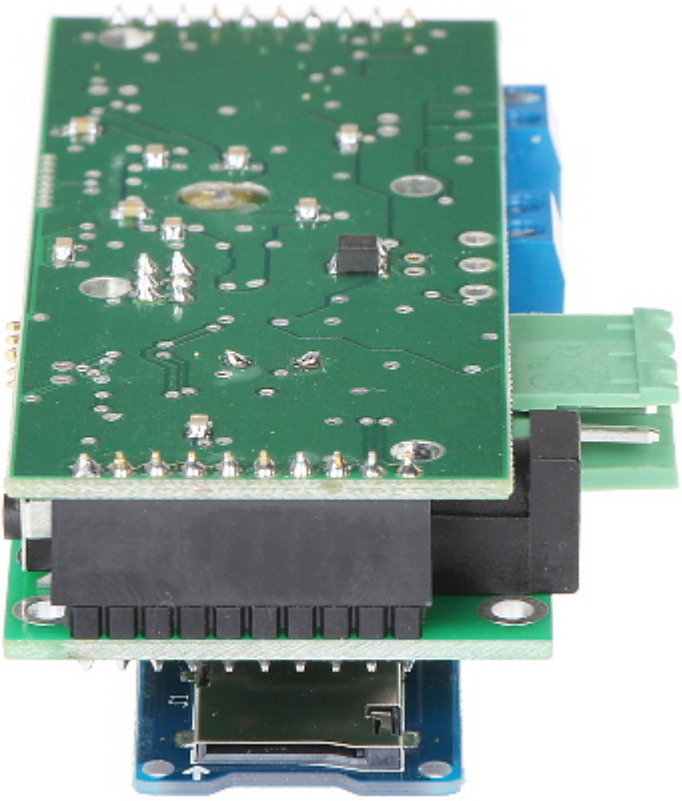

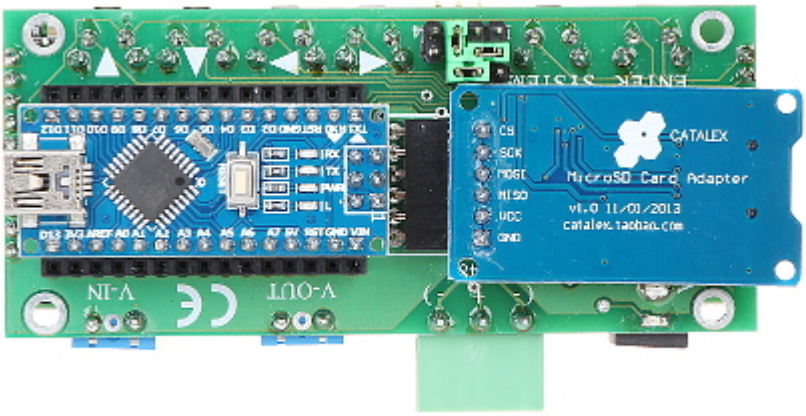

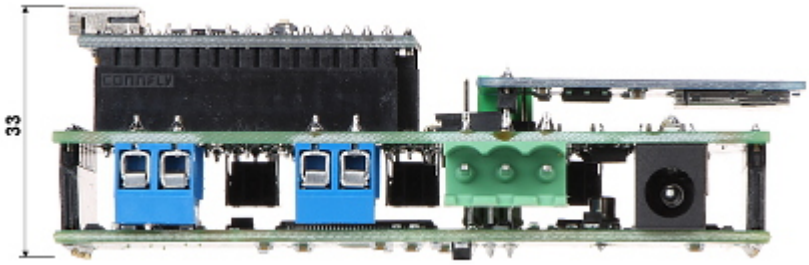

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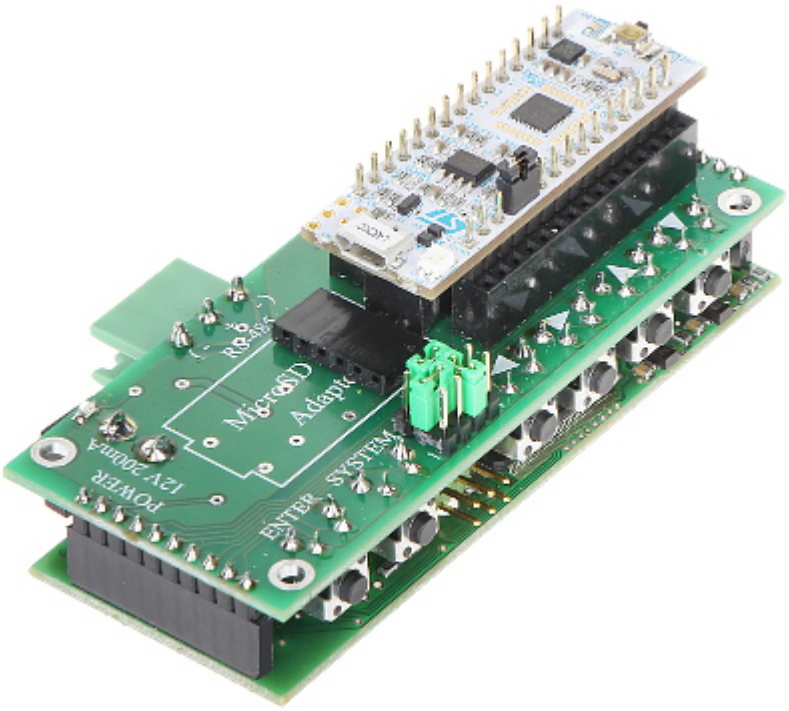
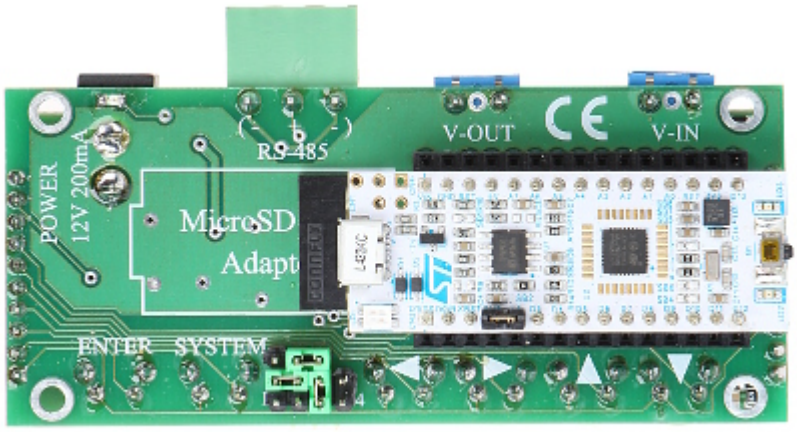
The PORT-22 can also operate with Nucleo:





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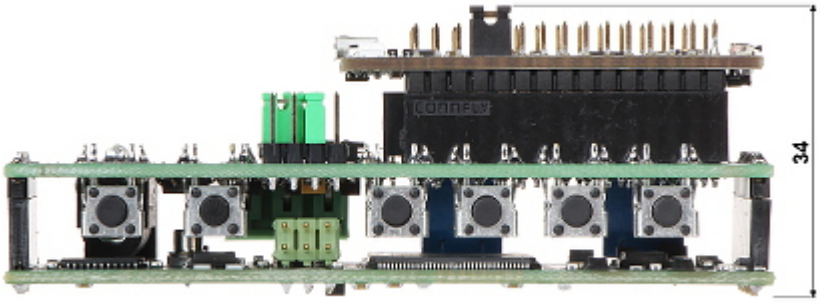
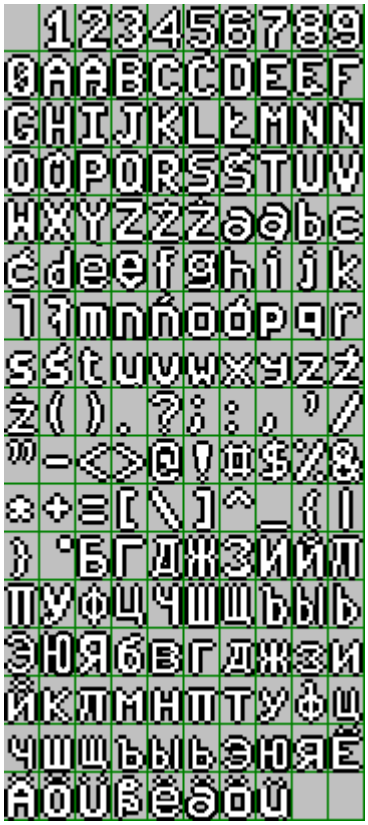


The device has the ability to change the font and create own table of graphic characters:



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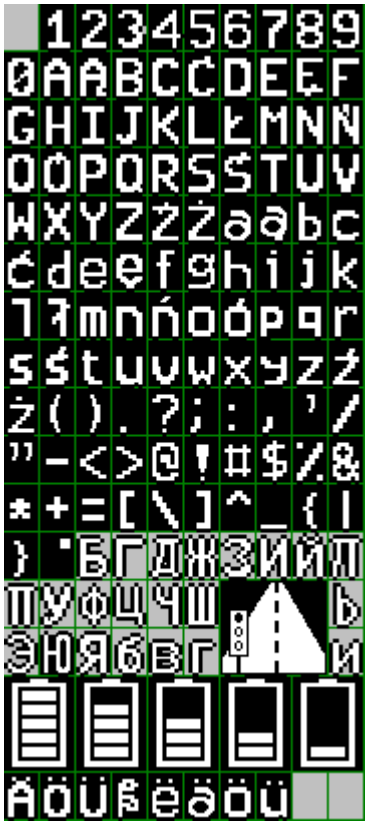
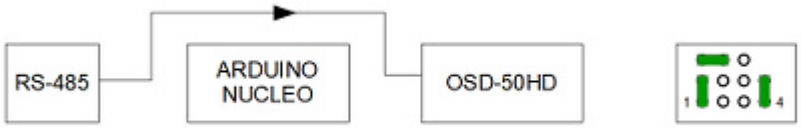


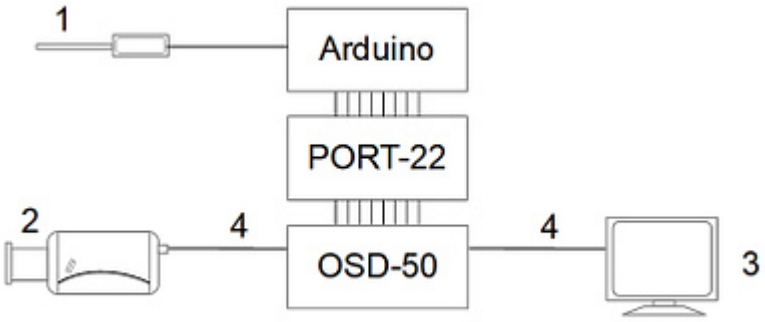
The OSD-50HD control can be implemented in several ways:
RS-485 direct connection to the OSD-50HD - for example for the OSD-50HD hardware update:



RS-485 connection to the ARDUINO / NUCLEO:

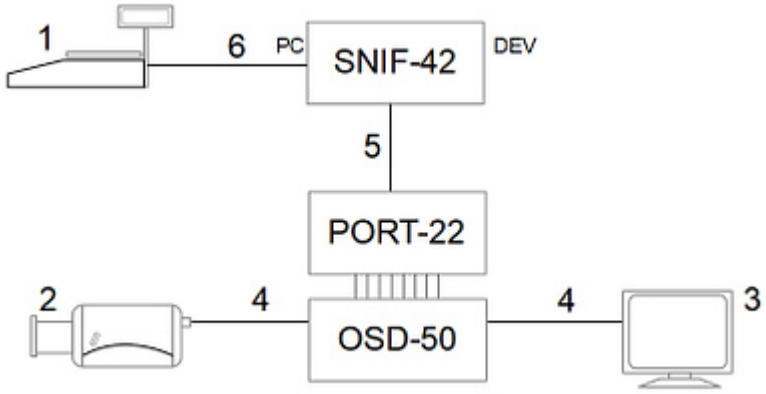
Direct sensors connection to the ARDUINO / NUCLEO:

An example of connecting a temperature sensor:



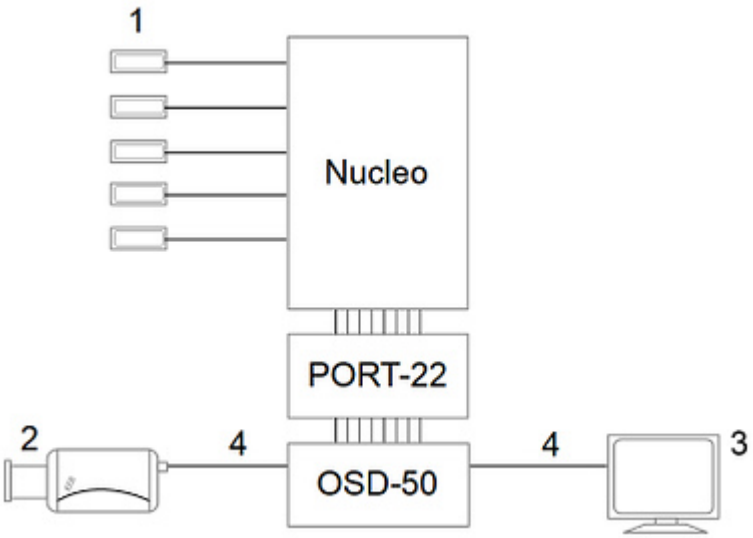
1. Temperature Sensor
2. Camera
3. Monitor
4. Video signal

Configuration with using a scale:



1. Electronic scale
2. Camera
3. Monitor
4. Video signal
5. RS-485
6. RS-232

An example of connecting several sensors:



1. Sensors
2. Camera
3. Monitor
4. Video signal

OSD Systems - the presentation:
:
An exemplary OSD system for analogue HD cameras based on arduino nano using selected sensors:
:
Example of application:
:
The data grabbing manual, to add a new protocol using the "FG data grabber" application:
:

PACKAGE

Dimensions (L x W x H): 0x0x0 mm	Gross Weight: 0 kg

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