



Oengineering S.R.L. (OE)

How to operate
GUARD-1

Vicenza, Italy

Content of the GUARD-1 system

Camera	GUARD-1 with: autonomous underwater camera LED ring Power cable for the LED ring	
Control GBOX	GBOX with one small box, two cables, #1 8pin connector, #1 16pin connector	
Accessories box (carton)	8PIN closing CAP male	
	8PIN closing CAP female	
	16PIN closing CAP – special – closecircuit	
	Battery charger	
	Backup SD card (128GB)	
Transport box	Transport case	

How to operate

GUARD-1 system has 2 kind of operative modes

- **COP** – Configuration&charging operations
- **MOP** – Mission Operation
- **DAI** – Download Acquired Images

In the following slides we present a guide to the use of both the operative modes

COP – Configuration & Charging operations

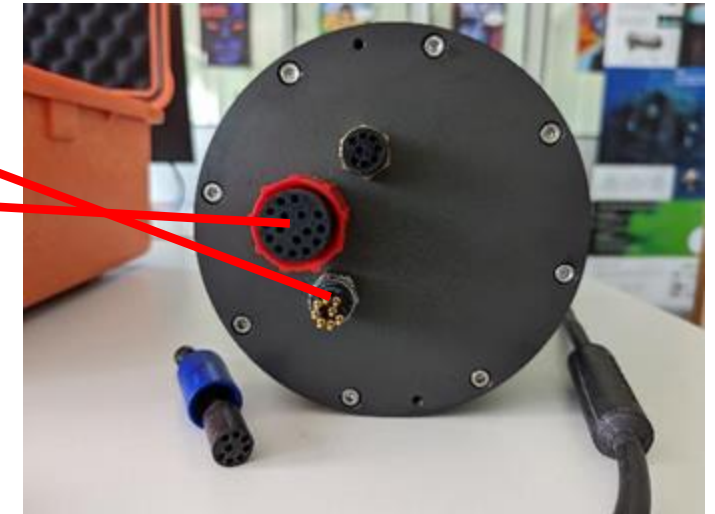
When GUARD-1 is not in mission mode, you can configure and charge it by means of the GBOX. To do so, attach the cables as described in the picture.



COP – Configuration & Charging operations

Instructions for configuring the GUARD-1 timings:

1. Connect Ethernet cable to pc or local network, if a DHCP server is present, the camera will automatically get an IP address, however the camera will always have a static network alias, so you can reach the camera at: 192.168.1.2 (you have to statically configure the IP address also of the pc you are using for example at 192.168.1.3).
2. To modify the settings, you have to access the system through ssh remote shell, using built-in ssh client if you are using a Unix like OS or another client (ex putty) for Windows OS, the camera has only the root user without password. Is using ssh shell client the command will be `~# ssh root@192.168.1.2` (or the IP assigned by DHCP server) if you OS support that you can also reach camera using mDNS `~# ssh root@guardone.local`
3. Once inside the camera, follow this command list:
 - a. `~# mount -o remount,rw /app`
 - b. `~# nano /app/ImageConv.in`
 - c. Edit the row beginning with: `exp_acq_json="{...}"`
 - i. "acq_period" It sets the time between acquisitions in seconds.
 - ii. "acq_pause" leave it 0: it sets the time between two consecutive frames in the automatic adjustment loop
 - d. Save the file (Ctrl-X e yes)
 - e. `~# mount -o remount,ro /app`
 - f. `~# poweroff`
 - g. after 3 minutes you can disconnect power..



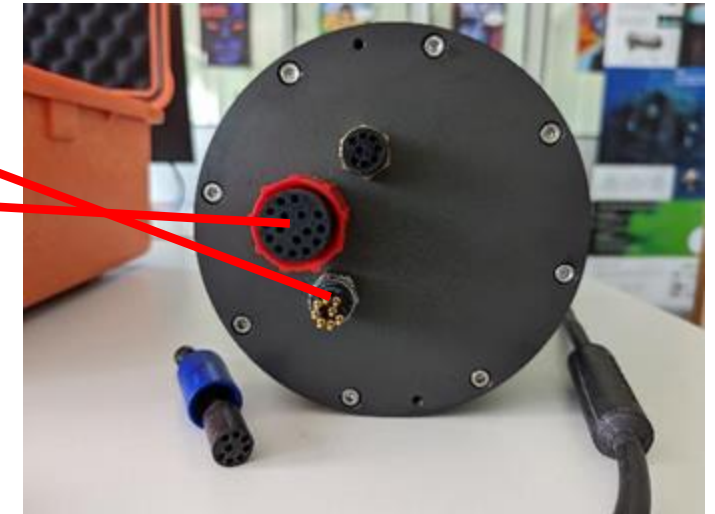
To delete the acquired images after the download, you have to:

1. log-in (ssh or serial terminal are the same)
2. re-mount in write mode the /data partition `~$ mount -o remount,rw /data`
3. `rm -rf /data/img/*`
4. re-mount in write mode the /data partition `~$ mount -o remount,ro /data`
5. DONE

DAI – Download Acquired Images

Instructions for download the GUARD-1 acquired images:

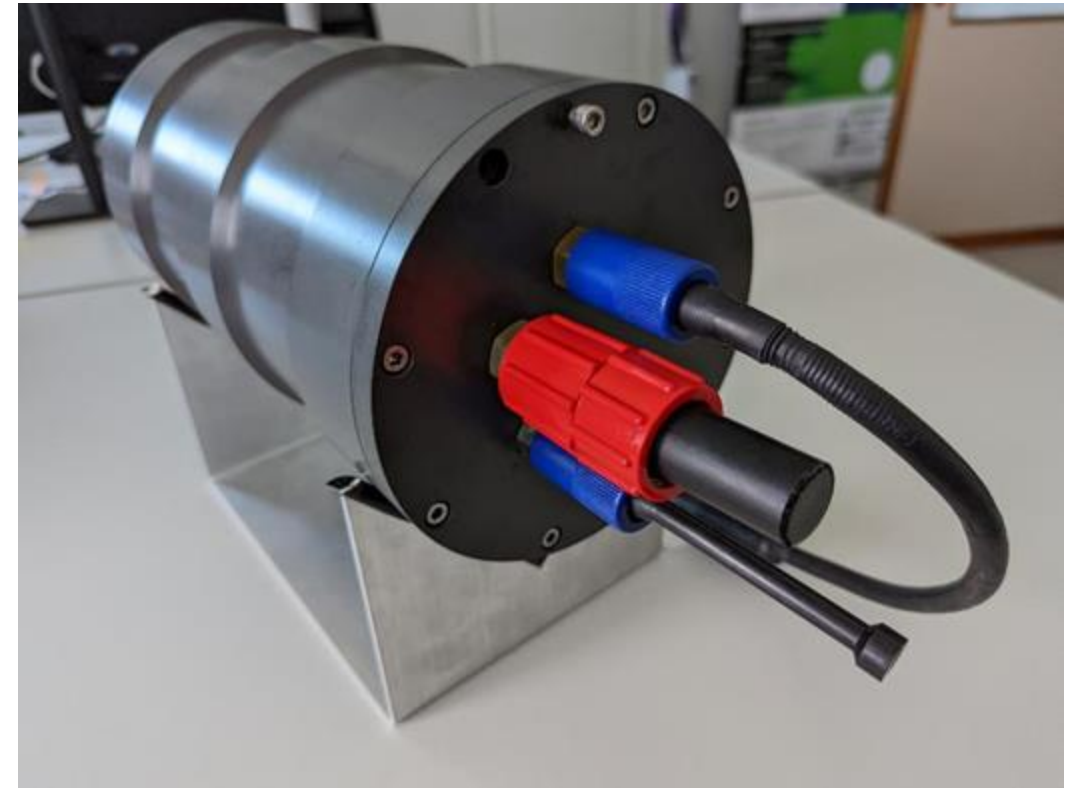
1. Connect Ethernet cable to pc or local network, if a DHCP server is present, the camera will automatically get an IP address, however the camera will always have a static network alias, so you can reach the camera at: 192.168.1.2 (you have to statically configure the IP address also of the pc you are using for example at 192.168.1.3) if you OS support that you can also reach camera using mDNS "guardone.local" name.
2. You have to access the files through sftp/scp secure file transfer protocol, using built-in sftp/scp client if you are using a Unix like OS or another client (ex filezilla) for Windows OS
3. Images are located in /data/img path within increasingly numbered subfolders.



MOP – Mission Operations

After the programming of GUARD-1 the mission can be started following these instructions:

- 1) Attach the LED ring connectors
- 2) Plug the closing cap of the 8 PIN connector
- 3) Whenever you want to START the operations, just before the deployment, plug the 16 PIN cap. This will start (via HW close circuit) the entire system.
- 4) In order to STOP the operation simply unplug the 16 PIN cap.





Oengineering S.R.L.
Address Strada Casale, 175, Vicenza, Italy (operations)
Via Enrico Albareto, 21, Genova, Italy
Via Q. Sella 5/B, Vicenza, Italy (legal)
Phone +39 0444 1270111
Website www.oengineering.eu
Email info@oengineering.eu

Product Examples

