

# EMS LEVELS

## From basic monitoring to full connectivity

A clear overview of EMS capabilities across levels  
- scalable to match your cold chain needs.



**LEVEL 1**  
Local basic



**LEVEL 2**  
Advanced local



**LEVEL 3**  
Advanced (full remote)

| FEATURES                                       |                              |                                      |                       |
|------------------------------------------------|------------------------------|--------------------------------------|-----------------------|
| Monitoring type                                | <br>Basic local              | <br>Advanced local                   | <br>Remote + local    |
| Data access (USB)                              |                              |                                      |                       |
| Local display                                  | <br>Basic                    | <br>Advanced                         | <br>Advanced          |
| Alarm locally (display)<br>Audio + visual      |                              |                                      |                       |
| Local dashboard<br>/ visualization             |                              |                                      |                       |
| Local data analysis<br>& decision support      |                              |                                      |                       |
| Remote connectivity<br>(GSM/SIM)               |                              |                                      |                       |
| Remote monitoring<br>(dashboard)               |                              |                                      |                       |
| SMS / E-mail alarms                            |                              |                                      |                       |
| Auto communications<br>to external systems API |                              |                                      |                       |
| Remote diagnostics                             |                              |                                      |                       |
| User apps / email reporting                    | <br>(Manual)                 | <br>(Local support)                  | <br>(Full remote)     |
| Upgrade possibility                            | <br>Level 2 / Level 3        | <br>Level 3                          |                       |
| Use case<br>(simplified)                       | Basic monitoring<br>(manual) | Local decision support<br>(advanced) | Full fleet management |



### Upgradable from Level 1 to Level 3

A future-ready platform that grows with your needs.

1



2



3

# EMS SYSTEM

## VF-EMS SYSTEM L2/3 2.0

Equipment Monitoring System with built-in datalogger, GPS and remote temperature data log via GSM. 5" touch display with access to various actual temperatures, datalog, and diagnosis. Designed for monitoring ILR and SDD vaccine refrigerators. WHO Approved in compliance with PQS 2026 specifications: E006/EM01.2



### SPECIFICATIONS

|                   |                                                                     |
|-------------------|---------------------------------------------------------------------|
| Display           | 5" touch screen (color display)                                     |
| Temperature range | -40°C to +85°C                                                      |
| Accuracy          | ±0.5°C from -10°C to +85°C                                          |
| Battery Backup    | Min. 240 hours                                                      |
| Sim Card          | Supplied with global sim card                                       |
| Sim Card optional | Can be supplied with local sim card (limited to specific countries) |
| Voltage range     | 220-240V 50/60Hz - 115/60Hz                                         |
| IP rating         | Tested at Force Technology - Test report no: 125-28479-1, IP64      |
| Type              | Fully integrated in lid of VLS appliance                            |

### SENSORS

|                         |     |
|-------------------------|-----|
| Vaccine compartment 1   | YES |
| Vaccine compartment 2   | YES |
| Freezer (if applicable) | YES |
| Ice bank                | YES |
| Ambient                 | YES |
| Lid opening             | YES |
| Battery level           | YES |

### DATA LOGGER

|                                                    |            |
|----------------------------------------------------|------------|
| Temperature data                                   | 5          |
| Temperature reports PDF                            | 30/60 days |
| Data file type: Json data objects for data records | YES        |
| Compressor state on/off                            | YES        |
| Lid Status/Alarm                                   | YES        |
| GPS coordinates                                    | YES        |
| SMS/Email alarms                                   | YES        |

### FEATURES

|                                                                                   |                                                        |
|-----------------------------------------------------------------------------------|--------------------------------------------------------|
| Realtime temperature and functionality monitoring (L3)                            | Password access                                        |
| Setpoint settings showed in onlined dashboard (L3)                                | Remote alarm logs                                      |
| Option to remote control unit setpoints (L3)                                      | GPS coordinates                                        |
| 2 x vaccine compartment temperature sensors                                       | Compressor current measurements                        |
| Individual temperature data, graphs, and alarms displayed on the LCD touch screen | 1 x USB energy harvesting option charging e.g.phone    |
| Compressor status input/On/Off data monitored/stored                              | Holdover/Autonomy time indicator                       |
| Remote alarms                                                                     | M2M - Machine to machine connection                    |
| 24/7 GSM connectivity                                                             | VARO Connectivity                                      |
| 2/4G Connectivity                                                                 | Improve signal with the option to add external antenna |

| Data logger and machine-to-machine interface for Equipment Monitoring Systems | Performance specification | Product verification protocol |
|-------------------------------------------------------------------------------|---------------------------|-------------------------------|
| VF-DL 1.0                                                                     | E006/DL01.2               | E006/DL01-VP.3                |
| Equipment Monitoring Devices for Equipment Monitoring Systems                 | Performance specification | Product verification protocol |
| VF-EMS L2/3 2.0                                                               | E006/EM01.2               | E006/EM01-VP.2                |
| Data standards for cold chain equipment monitoring                            | Performance specification | Product verification protocol |
| DVF-DL 1.0 and VF-EMS L2/3 2.0                                                | E006/DS01.2               | -                             |

In compliance with latest WHO PQS requirements.