

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