

***Chapter IX:***  
***FAULT FINDING, REPLACEMENT AND***  
***RESTORE***

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## 1. ERROR MESSAGES AND TROUBLESHOOTING

The mammo unit is provided with a High internal diagnostic System. For each malfunction a message appears to inform user on each unusual event. In the following tables all error messages are listed.

**TABLE 1**

- **Column 1:** Error code
- **Column 2:** Error message displayed
- **Column 3:** What do to. In this section only actions by service are listed. Please see Operator's manuals for action by user. If no suggested action is possible to solve the problem, please contact Metaltronica S.p.A.

The following messages are displayed **ONLY** on the AWS DSP:

CODE	MESSAGE (EN)	USER CORRECTIVE ACTION
1221	"Media can be safely removed"	Informative.
1222	"Invalid media"	Insert valid Media
1226	"Daily check failed Performances may be degraded. Contact technical support "	Contact technical support.
4002	"Ini file not found"	Export log files and contact technical assistance
4003	"PEGASUS interface not found"	Export log files and contact technical assistance
4004	"Unable to create PEGASUS pipe"	Export log files and contact technical assistance
4006	"Config file not found"	Export log files and contact technical assistance
5000	"Detector not responding\nMaybe off..."	Check if the detector is turned on and check the correct functionality and connection of the appropriate ethernet cable. Export log files and contact technical assistance
5001	"Detector not initialized"	Check if the detector is turned on and check the correct functionality and connection of the appropriate ethernet cable. Export log files and contact technical assistance
5002	"Mammo not responding\nMaybe off..."	Check if the mammography unit is turned on and check the correct functionality and connection of the appropriate ethernet cable.
5003	"Dose lower than expected"	Informative.
5004	"Select a marker to execute the procedure"	Select a marker and proceed or quit the procedure.
5005	"No study selected"	Informative.
5006	"Cannot select more than one study"	Select a single patient or abort the sending procedure.
5007	"Error in AE Title field"	contact technical assistance
5008	"Error in IP field"	Contact technical assistance
5009	"Error in Port field"	Contact technical assistance
5010	"Error in Timeout field"	Contact technical assistance
5011	"Wrong Accession number"	Insert a correst AccessionNumber or quit the procedure
5012	"Tube-Arm will move..."	Informative.
5015	"No printers found"	Quit the program, check the power and the correct functionality of the DICOM printers, check the correct configuration of the printer in the application. Acquire DICOM printers.
5016	"already running"	Wait for the end of the current export. Export log files and contact technical assistance.
5019	"Wait study sending..."	Wait for the sending to be finished
5020	"No device selected"	Insert a valid parameter
5021	"Not enough projections to compute slices. Image empty"	Early release button. Informative

CODE	MESSAGE (EN)	USER CORRECTIVE ACTION
5022	"Hard disk almost full"	Contact technical assistance
5023	"Tomo dose configuration files are missing. Degraded performance. Contact technical customer support."	Contact technical assistance
5024	"Tomo AEC configuration files are missing. Degraded performance. Contact technical customer support."	Contact technical assistance
5025	AEC configuration files are missing. Degraded performance. Contact technical customer support."	Contact technical assistance
5026	"Air Kerma default configuration files used. Degraded performance. Contact technical customer support"	Contact technical assistance
5027	"AEC data seems to have anomalous behaviour. Check image"	Follow indication
6000	"Depth not acceptable.\nMarker not usable"	Change projection. It's impossible to perform a biopsy in the selected point.
6001	"Depth greater than breast thickness.\nMarker not usable"	Change projection. It's impossible to perform a biopsy in the selected point.
6005	"Unable to identify Mammo"	Check if the mammography unit is turned on and check the correct functionality and connection of the appropriate ethernet cable.
6007	"Wrong potter"	remove the biopsy device and insert the right potter (or vice-versa)
6008	"Cannot open study"	Export log files and contact technical assistance
6009	"Error changing wgl"	Export log files and contact technical assistance
6010	"Unable to perform enhancement"	Save the study, export log files and contact the technical assistance
6011	"Unable to compute percentage"	Check the positioning of the needed phantoms. Save the study, export log files and contact technical assistance.
6015	"Breast too thick"	If possible, apply an higher compression. Export the log files and contact the technical assistance.
6016	"No Breast detected"	Try to perform a new compression. Export the log files and contact the technical assistance.
6017	"Error computing synthetic image"	Close the study. Try reload it. If all ok try append the same study and go ahead with the protocol. Otherwise open an other study and terminate the protocol. – Restart system
6018	"CD Error: Pipe not present"	Fatal error. Avoid using CD or restart system
6019	"CD Error: Parser not present"	Fatal error. Avoid using CD or restart system
6020	"CD Error: Error creating files"	Fatal error. Avoid using CD or restart system
6021	"CD Error: Error defining recorders"	Fatal error. Avoid using CD or restart system
6022	"CD Error: Error initializing recorders"	Fatal error. Avoid using CD or restart system
6023	"CD Error: Not exclusive owner"	Fatal error. Avoid using CD or restart system
6024	"CD Error: Error crating image"	Fatal error. Avoid using CD or restart system
6025	"CD Error: Image too large for media type"	Media capacity insufficient for the operation. Change media or store less data
6026	"CD Error: Error creating file system"	Fatal error. Avoid using CD or restart system
6027	"CD Error: No CD/DvD inserted"	No disc inserted – Damaged disc inserted. Change disc
6028	"CD Error: Media not blank"	Non empty disc – Damaged disc inserted. Insert a disc or change it
6029	"Incorrect length"	Insert a valid parameter
6030	"Incorrect tip"	Insert a valid parameter
6031	"Incorrect tip length"	Insert a valid parameter
6034	"Unable to complete request to Mammo"	Export log files and contact technical assistance
6035	"Unable to save emission data"	Export log files and contact technical assistance
6036	"Error Copying files"	Media capacity insufficient for the operation. Change media or store less data
6037	"Invalid date"	Insert a valid date
6038	"Hard Disk FULL. New study disable Urgently contact technical customer support"	Call Technical assistance
6039	"No Anode/filter combination available"	Contact technical assistance
6040	"Adapter in short circuit"	Contact technical assistance

CODE	MESSAGE (EN)	USER CORRECTIVE ACTION
6041	"Wrong adapter"	Install proper adapter. If proper adapter is already installed and problem persists, contact technical assistance
6042	"Error calibrating EO"	Contact technical assistance
6043	"Unable to create folder"	Check in UTILITIES→STUDY CONFIG that institution name doesn't contain special characters. Or, check USB storage device integrity. If problem persists, contact technical assistance
6044	"Procedure not executable without compression"	Enable compression
6045	"Preference already exist"	A favourite biopsy device is already present: is not possible to add, as favourite device, two biopsy device with the same features
6046	Marker not valid for downward approach	Action not allowed
6047	You could not insert specimen collimator now	Remove collimator
6048	Unable to complete procedure. Remove collimator	Remove collimator
6900	"Unable to launch OTSU(n)"	Export log files and contact technical assistance
6901	"Unable to launch STORE2015"	contact technical assistance
6902	"Unable to launch ECHO2015"	contact technical assistance
6903	"Unable to launch WL2015"	contact technical assistance
6904	"Unable to launch QR2015"	Export log files and contact technical assistance
6905	"Unable to launch PRINT2015"	contact technical assistance
6906	"Unable to launch CD2015"	Restart the program. Export log files and contact technical assistance.
6907	"Unable to launch PEGASUS"	Export log files and contact technical assistance
6908	"Send SR-DOSE"	Export log files and contact technical assistance
6909	"Unable to launch MkDCM2015"	Export log files and contact technical assistance
8001	"Detector replaced"	contact technical assistance
8002	"Detector password expired"	Export log files and contact technical assistance
8003	"field not filled"	Insert the required fields/types or abort the study
8004	"Power-on error.\nPlease check if any emergency pushbutton\nis activated, unlock it and select Continue"	Follow the directions in the message. In case the problem is still not solved, contact technical assistance.
8005	"WARNING: The entire system will be now turned on.\nAre you sure you want to continue?"	Check if the system (MAMMO+AWS) turn on is effectively required and no service operations are on components which are going to be powered
F000	"The entire system is now going to shut down.\nClick OK to continue"	Check if the system (MAMMO+AWS) shut down is effectively required and no other activity is on going
F001	"Error in power-down sequence.\nPlease call for service"	contact technical assistance
F002	"Error in power-on sequence.\nPlease call for service"	contact technical assistance
F003	"Error in power-on sequence.\nPlease call for service"	contact technical assistance
F004	"Error in power-on sequence.\nPlease call for service"	contact technical assistance
F005	"Error in power-on sequence.\nPlease call for service"	contact technical assistance
F006	"Error in power-on sequence.\nPlease call for service"	contact technical assistance
F007	"Error in power-on sequence.\nPlease call for service"	contact technical assistance
F008	"Error in power-on sequence.\nPlease call for service"	contact technical assistance
F009	"Error in power-on sequence.\nPlease call for service"	contact technical assistance
F010	"Error in power-on sequence.\nPlease call for service"	contact technical assistance
F011	"Error in power-on sequence.\nPlease call for service"	contact technical assistance
F012	"Error in power-on sequence.\nPlease call for service"	contact technical assistance

CODE	MESSAGE (EN)	USER CORRECTIVE ACTION
	service"	
0	"Unable to launch"	Export log files and contact technical assistance

MESSAGE (EN)	SERVICE CORRECTIVE ACTION
"Pegasus interface has stopped working"	Switch off the calculator by means of the dedicated pushbutton and contact technical assistance

**TABLE 2**

- **Column 1:** Error code
- **Column 2:** Error message title displayed
- **Column 3:** Error message description displayed
- **Column 4=** What to do. In this section only actions by service are listed. Please see Operator’s manuals for action by user. If no suggested action is possible to solve the problem, please contact Metaltronica S.p.A.

The following messages are displayed **BOTH** on the AWS DSP and on the MAMMO TSD:

CODE	TITLE	DESCRIPTION	USER CORRECTIVE ACTION
[M:00001]	BIOPSY ERROR!	The X shaft activation failed to reach the requested target position	Repeat the command or reset the Biopsy device.
[M:00002]	BIOPSY ERROR!	The Y shaft activation failed to reach the requested target position.	Repeat the command or reset the Biopsy device.
[M:00003]	BIOPSY ERROR!	The Z shaft activation failed to reach the requested target position	Repeat the command or reset the Biopsy device.
[M:00101]	C-ARM ROTATION NOT ALLOWED!!	One of the safety conditions prevent the C-ARM activation	Checks the rotation motor cover protection switch, the compression status, the integrity of the power supply.
[M:00102]	C-ARM ZERO SETTING ERROR!	A not allowed C-ARM zero setting has been requested.	Check the Startup completion or safety conditions..
[M:00103]	C-ARM ZERO SETTING ERROR!	A not allowed C-ARM zero setting has been requested.	Check the Startup completion or safety conditions..
[M:00104]	C-ARM ZERO SETTING ERROR!	Timeout during C-ARM zero setting process.	Check the cable connections.
M:00105]	C-ARM POSITIONING ERROR!	A not allowed C-ARM positioning has been requested.	Repeat the command;
M:00106]	C-ARM POSITIONING ERROR!	A not allowed C-ARM positioning has been requested.	Repeat the command;
M:00107]	C-ARM POSITIONING ERROR!	Timeout during C-ARM positioning process	Check the cable connections.
M:00108]	C-ARM POSITIONING ERROR!	Obstacle detected during positioning process	Check the cable connections.
[M:00109]	C-ARM DRIVER ERROR!	The C-ARM driver detected an internal error. See the C-ARM driver service panel	See the service panel for more information.
M:00110]	C-ARM INVALID ACTIVATION ERROR!	The C-ARM activation is currently disabled.	Check the safety conditions.
M:00111]	C-ARM WRONG RANGE ERROR!!	Out of allowed position range has been requested.	Repeat the command and check the command data.
M:00112]	C-ARM BUSY ERROR!	The C-ARM or the TUBE-ARM is currently running.	Repeat the command
M:00113]	C-ARM SAFETY ERROR!	The C-ARM Engine cover is out of place.	Close the cover or check the cable integrity

CODE	TITLE	DESCRIPTION	USER CORRECTIVE ACTION
M:00114]	C-ARM DRIVER COMMUNICATION ERROR	The System is unable to communicate to the C-ARM driver. See the C-ARM driver service panel and check the CAN BUS integrity and cabling	See the C-ARM driver service panel and check the CAN BUS integrity and cabling
M:00115]	C-ARM OBSTACLE SYSTEM FAILURE	The Obstacle detection system input is blocked.	Check the obstacle device integrity.
M:00116]	C-ARM POSITIONING ERROR	An excess resistance force has been detected during rotation.	Check the integrity of device and eventual obstacles in the movements
[M:00301]	COLLIMATION PROCEDURE FAILED!	Unlock then lock the compression paddle to force a new collimation attempt. If unsuccessful restart the system.	Repeat the collimation sequence: unlock the compressor support and lock it again. This sequence will force a new collimation.
[M:00302]	FILTER SELECTION FAILED!	Repeat filter selection or restart the system	Repeat the filter selection
[M:00303]	MIRROR ACTIVATION FAILED!	Repeat the Mirror activation or reboot the system.	If the mirror has not been activated, repeat the command turning on the collimation light.
[M:00304]	UNABLE TO ACTIVATE THE COLLIMATION LAMP!	Repeat the collimation lamp activation action.	Turn on manually the collimation light.
[M:00401]	TUBE-ARM ACTIVATION NOT ALLOWED!	The Tube-Arm couldn't be configured or busy	Repeat the command or reboot the system.
[M:00402]	TUBE-ARM ZERO SETTING NOT ALLOWED!	The Tube-Arm couldn't be configured or busy	Repeat the command or reboot the system.
[M:00403]	TUBE-ARM ZERO SETTING NOT ALLOWED!	The Tube-Arm couldn't be configured or busy	Repeat the command or reboot the system.
[M:00404]	TUBE-ARM ERROR!	Timeout during zero setting process	Check the connection cables, the power supply.
[M:00405]	TUBE-ARM ACTIVATION NOT ALLOWED!	The Tube-Arm couldn't be configured or busy	Repeat the command or reboot the system.
[M:00406]	TUBE-ARM ACTIVATION NOT ALLOWED	The Tube-Arm couldn't be configured or busy	Repeat the command or reboot the system.
[M:00407]	TUBE-ARM ERROR!	Timeout during positioning process	Check the connection cables, the power supply.
[M:00408]	TUBE-ARM ERROR!	Obstacle detected during positioning process.	Check the connection cables, the power supply and the obstacle device integrity.
[M:00409]	TUBE ARM DRIVER ERROR	The TUBE-ARM driver detected an internal error. See the TUBE-ARM driver service panel	See the TUBE-ARM driver service panel
[M:00410]	TUBE-ARM ACTIVATION NOT ALLOWED	The Tube-Arm couldn't be configured or busy	Repeat the command or reboot the system.
[M:00411]	TUBE-ARM WRONG RANGE ERROR	The system requested a wrong Tube-Arm target angle.	Verify the current system configuration file related to the TubeArm targets.
[M:00412]	TUBE-ARM BUSY ERROR	The C-ARM or the TUBE-ARM is currently running.	Repeat the command

CODE	TITLE	DESCRIPTION	USER CORRECTIVE ACTION
[M:00413]	TUBE-ARM SAFETY ERROR	The external safety device has been activated. Switch off the system then check the TUBE-ARM integrity	Check the safety conditions and repeat the command
[M:00414]	TUBE-ARM DRIVER COMMUNICATION ERROR	The System is unable to communicate to the TUBE-ARM driver. See the TUBE-ARM driver service panel and check the CAN BUS integrity and cabling.	See the TUBE-ARM driver service panel and check the CAN BUS integrity and cabling.
[M:00415]	TUBE ARM OBSTACLE SYSTEM FAILURE	The Obstacle detection system input is blocked	See the TUBE-ARM driver service panel and check the CAN BUS integrity and cabling.
[M:00416]	TUBE ARM POSITIONING ERROR	An excess resistance force has been detected during rotation	Check the engine integrity.
[M:00501]	TUBE TEMPERATURE TOO HIGH!	The System cannot proceed with the X-RAY sequence until the Tube temperature decreases to a safer level.	Wait for the tube to cool down.
[M:00502]	FOCUS SETTING FAILED!	Repeat the operation or reboot the system.	Abort the exposure on the current view and repeat the current view selection, forcing the focal spot selection. Restart the unit
[M:00503]	ANODIC CURRENT ERROR!	The system detected a malfunction in the Anodic Current monitoring. Reboot the system.	Abort the exposure then contact technical assistance.
[M:00504]	GROUND CONNECTION ERROR!	The system detected a missing ground connection in the inverter device. Check the Ground connection	Abort the exposure then contact technical assistance.
[M:00505]	SYSTEM CALIBRATION ERROR	The Main power calibration is missing. See the HV calibration service panel	Abort the exposure then contact technical assistance.
[M:00506]	POWER VOLTAGE ERROR!	The system measured a wrong power voltage level. Check the main power or the power level calibration.	Abort the exposure then contact technical assistance.
[M:00507]	MAS METER MONITORING ERROR!	The system detected an anomaly in the mAsmeter device.	Abort the exposure then contact technical assistance.
[M:00508]	STAND-BY FILAMENT CURRENT ERROR!	The system detected a wrong stand-by filament current.	Abort the exposure then contact technical assistance.
[M:00509]	FILAMENT AMPLIFIER TEMPERATURE ERROR!	The system detected a too high Filament Amplifier temperature.	Abort the exposure then contact technical assistance.
[M:00510]	LOW SPEED STARTER ERROR!	Wrong MAIN-OFF current detected	Check the starter connection, the starter calibration, and the anode rotating wires and integrity.
[M:00511]	LOW SPEED STARTER ERROR!	Wrong SHIFT-OFF current detected	Check the starter connection, the starter calibration, and the anode rotating wires and integrity.
[M:00512]	LOW SPEED STARTER ERROR!	Wrong MAIN-RUN-MAX current detected	Check the starter connection, the starter calibration, and the anode rotating wires and integrity.
[M:00513]	LOW SPEED STARTER ERROR!	Wrong MAIN-RUN-MIN current detected	Check the starter connection, the starter calibration, and the anode rotating wires and integrity.
[M:00514]	LOW SPEED STARTER ERROR!	Wrong MAIN-KEEP-MAX current detected	Check the starter connection, the starter calibration, and the anode rotating wires and integrity.
[M:00515]	LOW SPEED STARTER ERROR!	Wrong MAIN-KEEP-MIN current detected.	Check the starter connection, the starter calibration, and the anode rotating wires and integrity.

CODE	TITLE	DESCRIPTION	USER CORRECTIVE ACTION
[M:00516]	LOW SPEED STARTER ERROR!	Wrong SHIFT-RUN-MAX current detected	Check the starter connection, the starter calibration, and the anode rotating wires and integrity.
[M:00517]	LOW SPEED STARTER ERROR!	Wrong SHIFT-RUN-MIN current detected	Check the starter connection, the starter calibration, and the anode rotating wires and integrity.
[M:00518]	LOW SPEED STARTER ERROR!	Wrong SHIFT-KEEP-MAX current detected	Check the starter connection, the starter calibration, and the anode rotating wires and integrity.
[M:00519]	LOW SPEED STARTER ERROR!	Wrong SHIFT-KEEP-MIN current detected.	Check the starter connection, the starter calibration, and the anode rotating wires and integrity.
[M:00520]	LOW SPEED STARTER ERROR!	Low Speed starter not calibrated.	Check the starter connection, the starter calibration, and the anode rotating wires and integrity.
[M:00521]	ANODE HU TOO HIGH!	The Tube Anode is too hot for further exposures	Wait until the Tube temperature drops to a valid level.
[M:00522]	X-RAY TUBE TEMPERATURE ERROR!	The X-RAY Tube temperature sensor seems to be damaged. Replace the sensor.	Abort the exposure then contact technical assistance.
[M:00601]	SYSTEM ERROR!	Restart the system.	repeat operation or restart the system
[M:00602]	SYSTEM ERROR!	The System detected non compatible device firmware revisions.	Restart the system
[M:00603]	WARNING!	The System is switching off in few seconds.	Wait for system switching off
[M:00701]	COMPRESSION PADDLE NOT CORRECTLY LOCKED!	Insert properly the compression paddle then lock it with the upper knob.	Insert the compression paddle correctly and lock it until the green light is on
[M:00702]	COMPRESSION PADDLE HOLDER NOT CORRECTLY LOCKED!	Insert properly the compression paddle holder then lock it with the lower knob.	Insert the compression paddle correctly and lock it until the green light is on
[M:00703]	UNDETECTED COMPRESSION PADDLE!	The system detected a wrong compression paddle code.	insert the compression paddle
[M:00704]	COMPRESSION BREAST WITH CLOSED STUDY!	It is strongly suggested to compress a breast only when in OPEN STUDY. In case of test session, ignore this message.	This is just a notice. It can be ignored. In case the message appears with a study opened or without an actual compression, call technical assistance
[M:00705]	UNDETECTED COMPONENT!	The system didn't detect a validComponent.	Insert the appropriate Component. Check the correct insertion of the Component, clicking at the end-run.
[M:00801]	MAGNIFICATION DEVICE ERROR!	Invalid magnification factor.	Call technical assistance
[M:00802]	MAGNIFICATION DEVICE ERROR!	Magnification device not configured.	Call technical assistance
[M:00901]	XRAY SEQUENCE DISABLED!	The current contest requires the use of lead protection.	Insert the calibration shield.
[M:00902]	XRAY SEQUENCE DISABLED!	The current contest requires the use of test phantom	Insert the test phantom
[M:00903]	XRAY SEQUENCE DISABLED!	The current contest requires the use of 2D protective screen.	Insert the protective screen for 2D exams.
[M:00904]	XRAY SEQUENCE DISABLED!	The Door of the room results open.	Close the door.
[M:00905]	XRAY SEQUENCE DISABLED!	Exposure data error. Repeat the sequence or restart the system.	Ripeat the exposure. Restart the system.
[M:00906]	XRAY SEQUENCE DISABLED!	IO system error. Repeat the sequence or restart the system.	Repeat the sequence or restart the system.
[M:00907]	XRAY SEQUENCE DISABLED!	Timeout High Speed Starter. Repeat the sequence or restart the system.	Repeat the exposure. Contact technical assistance.
[M:00908]	X-RAY SEQUENCE ABORTED!	X-ray push button early released.	Keep the button pushed during the exposure until the end of the beeping sound. Possibly, use both the x-ray buttons together.

CODE	TITLE	DESCRIPTION	USER CORRECTIVE ACTION
[M:00909]	X-RAY SEQUENCE ABORTED!	X-ray push button early released.	Keep the button pushed during the exposure until the end of the beeping sound. Possibly, use both the x-ray buttons together.
[M:00910]	X-RAY SEQUENCE ABORTED!	X-ray push button early released.	Keep the button pushed during the exposure until the end of the beeping sound. Possibly, use both the x-ray buttons together.
[M:00912]	X-RAY SEQUENCE ABORTED!	The Detector doesn't activate the EXP-WIN signal.	Repeat the exposure. Restart the system.
[M:00913]	X-RAY SEQUENCE ABORTED!	The system detected a too high kV output level.	contact technical assistance
[M:00914]	X-RAY SEQUENCE ABORTED!	The system detected a too low kV output level.	contact technical assistance
[M:00915]	X-RAY SEQUENCE ABORTED!	The system detected a too high anodic current output level.	contact technical assistance
[M:00916]	X-RAY SEQUENCE ABORTED!	The system detected a too low anodic current output level.	contact technical assistance
[M:00917]	X-RAY SEQUENCE ABORTED!	The system detected a too higher filament current output level.	Repeat the sequence. In case of new interruption, contact technical assistance.
[M:00918]	X-RAY SEQUENCE ABORTED!	The system detected a too higher filament voltage output level.	Repeat the sequence.
[M:00919]	X-RAY SEQUENCE ABORTED!	The system detected a too lower power supply voltage level.	Repeat the sequence.
[M:00920]	X-RAY SEQUENCE ABORTED!	X-ray sequence time out.	restart the system
[M:00921]	X-RAY SEQUENCE ABORTED!	Invalid kV selection. Check the X-ray tube configuration file.	Insert kV in the allowed range. Restart the system.
[M:00922]	X-RAY SEQUENCE ABORTED!	Invalid mAs selection. Check the X-ray tube configuration file.	Insert mAs in the allowed range. Restart the system.
[M:00923]	X-RAY SEQUENCE ABORTED!	Check the X-ray tube configuration file.	contact technical assistance
[M:00924]	X-RAY SEQUENCE ABORTED!	The selected kV level has not been calibrated. Proceed the calibration.	contact technical assistance
[M:00925]	X-RAY SEQUENCE ABORTED!	The selected mA of filament current has not been calibrated. Proceed the calibration.	Contact technical assistance.
[M:00926]	X-RAY SEQUENCE ABORTED!	Check the X-ray tube configuration file.	Contact technical assistance
[M:00927]	X-RAY SEQUENCE ABORTED!	The system requested the selection of a non configured focus.	Abort the current sequence and select a new one.
[M:00928]	X-RAY SEQUENCE ABORTED!	The system requested a selection of a non configured filter.	Contact technical assistance.
[M:00929]	X-RAY SEQUENCE ABORTED!	The system requested a selection of a non configured collimation.	Contact technical assistance.
[M:00932]	X-RAY SEQUENCE ABORTED!	Invalid compression paddle in this context.	Insert the requested compression paddle.
[M:00933]	X-RAY SEQUENCE ABORTED!	Invalid compression paddle classification.	Remove and then insert again the current compression paddle.
[M:00934]	X-RAY SEQUENCE ABORTED!	Component not detected.	Insert the appropriate Component for the current exam.
[M:00935]	X-RAY SEQUENCE ABORTED!	C-arm position differs from the expected position.	Set the C-ARM in the target position requested by the acquisition work station.
[M:00936]	X-RAY SEQUENCE ABORTED!	Apply compression first.	Apply a compression.
[M:00937]	SYSTEM ERROR!	Internal error prevents the current sequence completion. Restart the system.	Restart the system.
[M:00938]	SYSTEM ERROR!	Internal error prevents the current sequence completion. Restart the system.	Restart the system.
[M:00939]	SYSTEM ERROR!	Internal error prevents the current sequence completion. Restart the system.	Restart the system.
[M:00940]	SYSTEM ERROR!	Internal error prevents the current sequence completion. Restart the system.	Restart the system.
[M:00941]	SYSTEM ERROR!	Internal error prevents the current sequence completion. Restart the system.	Restart the system.

CODE	TITLE	DESCRIPTION	USER CORRECTIVE ACTION
[M:00942]	SYSTEM ERROR!	Internal error prevents the current sequence completion. Restart the system.	Restart the system.
[M:00943]	SYSTEM ERROR!	Internal error prevents the current sequence completion. Restart the system.	Restart the system.
[M:00944]	SYSTEM ERROR!	Internal error prevents the current sequence completion. Restart the system.	Restart the system.
[M:00945]	X-RAY SEQUENCE ABORTED!	The system didn't receive the AEC data for the next exposure.	Repeat the sequence.
[M:00946]	X-RAY SEQUENCE ABORTED!	The system didn't receive the AEC data for the next exposure.	Repeat the sequence.
[M:00947]	X-RAY SEQUENCE ABORTED!	The system is unable to activate the dynamic collimation for the Tomo sequence. Repeat exposure or restart the system.	Repeat the sequence.
[M:00948]	X-RAY SEQUENCE ABORTED!	Error in HOME Tomo Tube-Arm positioning. Repeat exposure or restart the system.	Repeat the sequence.
[M:00949]	X-RAY SEQUENCE ABORTED!	Error in HOME Tomo Tube-Arm positioning. Repeat exposure or restart the system.	Repeat the sequence.
[M:00950]	X-RAY SEQUENCE ABORTED!	Error in Tube-Arm activation for the incoming Tomo sequence. Repeat exposure or restart the system.	Repeat the sequence.
[M:00951]	X-RAY SEQUENCE ABORTED!	Error in Tube-Arm activation for the incoming Tomo sequence. Repeat exposure or restart the system.	Repeat the sequence.
[M:00952]	X-RAY SEQUENCE ABORTED!	Error in CC Tomo Tube-Arm positioning.	Continue with a new sequence. This error doesn't compromise the last and completed sequence result.
[M:00953]	SYSTEM ERROR!	Internal error prevents the current sequence completion. Restart the system.	Restart the system.
[M:00954]	X-RAY SEQUENCE ABORTED!	The system has detected an invalid (or not configured) mag. factor.	Remove and then insert again the Component.
[M:00955]	X-RAY SEQUENCE ABORTED!	The system detected an invalid use of the Large Focus with the magnification device.	select the right focus for the Component in use (see configurations in the operator's manual)
[M:00956]	X-RAY SEQUENCE ABORTED!	The use of the small focus is allowed only with the magnification device in this contest.	select the right focus for the Component in use (see configurations in the operator's manual)
[M:00957]	X-RAY SEQUENCE ABORTED!	A detected obstacle prevents the Tomo sequence completion.	Remove the obstacle that prevents the Tube-Arm Movement.
[M:00958]	X-RAY SEQUENCE ABORTED!	Error in mirror positioning out of the field	Repeat the X-RAY sequence.
[M:00959]	X-RAY SEQUENCE ABORTED!	Error in HOME Tomo Tube-Arm positioning. Repeat exposure or restart the system.	Repeat the sequence.
[M:00960]	X-RAY SEQUENCE ABORTED!	Error in Tube-Arm activation for the incoming Tomo sequence. Repeat exposure or restart the system.	Repeat the sequence.
[M:00961]	XRAY SEQUENCE DISABLED!	The current contest requires the use of 3D protective screen.	Insert the protective screen for 3D exams.
[M:00962]	X-RAY SEQUENCE ABORTED!	Low speed starter error code: % l	Restart the system and repeat the exposure. If the error persist / exposure not allowed please contact technical assistance.
[M:00963]	X-RAY SEQUENCE ABORTED!	The Tube Anode is too hot for further exposures.	The tube Anode is to hot to be used, please stop exposure for few minutes.
[M:00964]	X-RAY SEQUENCE ABORTED!	The System cannot proceed with the X-RAY sequence until the Tube temperature decreases to a safer level.	The tube is to hot to be used, please stop exposure for few minutes.

CODE	TITLE	DESCRIPTION	USER CORRECTIVE ACTION
[M:00965]	X-RAY SEQUENCE ABORTED!	The Tube temperature sensor can be damaged or not properly connected.	The temperature sensor for tube is damages or not connected, please contact technical service.
[M:00966]	X-RAY SEQUENCE ABORTED!	The Tomo sequence cannot be executed because the Tube-Arm cannot be activated with the C-ARM in this position.	Change position to C-arm
[M:01003]	COMPRESSOR DEVICE ERROR!	The Compressor device detected an excess compression. Power off the system and check the device integrity	Restart the system. In case of the problem should happens again, contact technical assistance.
[M:01101]	POWER MONITORING ERROR!	Power Down detected. Save the study then power off the system.	Follow Indications
[M:01102]	POWER MONITORING ERROR!	The Emergency Push Button has been activated. Reset the button to proceed.	Follow Indications
[M:01103]	POWER MONITORING ERROR!	The system is completing the power startup. Wait the power startup completion before to activate the C-ARM or to expose.	Follow Indications
[M:01201]	DRIVER LENZE ERROR!	The position sensor cable appears disconnected	Check the position sensor cable
[M:01202]	DRIVER LENZE ERROR!	Wrong position sensor connection detected	Check the position sensor cable
[M:01203]	DRIVER LENZE ERROR!	The Driver detected an internal error. Check the Lenze Driver service panel.	Check the Lenze Driver service panel
[M:01204]	DROP C-ARM SIGNAL DETECTED!	The C-arm control system could be damaged. Switch off the system and contact service.	contact service.
[M:01301]	X-RAY PUSH BUTTON ERROR!	The system detected the X-RAY push button blocked.	Check the xray push button integrity
[M:01401]	COMPRESSION PEDAL ERROR!	The compression pedal blocked. Release the pedals or check the pedal integrity	Check the compression pedal integrity
[M:01501]	LENZE ERROR!	The pedals result blocked. Release the pedals or check the pedal integrity	Check the lenze pedal integrity
[M:01601]	C-ARM MANUAL PUSH BUTTON ERROR!	The C-ARM manual activation push buttons result blocked!	Check the C-ARM manual buttons integrity
[M:01701]	SYSTEM NOT READY FOR EXPOSURE!	The system didn't start correctly	Check System and Call Technical assistance
[M:01702]	SYSTEM NOT READY FOR EXPOSURE!	The Main power calibration is missing	Call Technical assistance
[M:01703]	SYSTEM NOT READY FOR EXPOSURE!	Low Speed starter not calibrated	Call Technical assistance
[M:01704]	SYSTEM NOT READY FOR EXPOSURE!	The Door of the room results open	Please, close the Door
[M:01705]	SYSTEM NOT READY FOR EXPOSURE!	The system detected a wrong compression paddle code.	Please, select correct compression paddle
[M:01706]	SYSTEM NOT READY FOR EXPOSURE!	Apply compression first	Follow indication

CODE	TITLE	DESCRIPTION	USER CORRECTIVE ACTION
[M:01707]	SYSTEM NOT READY FOR EXPOSURE!	Invalid Component.	Please, select correct Component
[M:01708]	SYSTEM NOT READY FOR EXPOSURE!	Missing patient protection	Please, use patient protection
[M:01709]	ACTION NOT ALLOWED!	The operating page is disabled when the toolkit is connected	Informative
[M:01801]	SYSTEM ERROR!	The generator's configuration file is corrupted.	contact technical assistance
[M:01802]	CONFIGURATION ERROR!	The generator's configuration file is corrupted.	contact technical assistance
[M:01803]	CONFIGURATION ERROR!	The Dose calculator is not configured for the installed filters.	contact technical assistance
[M:01804]	SYSTEM ERROR!	The system detected an invalid power up sequence completion. Try to restart the system	contact technical assistance
[M:01805]	CONFIGURATION ERROR!	Missing collimator configuration file.	contact technical assistance
[M:01806]	CONFIGURATION ERROR!	Missing compressor configuration file.	contact technical assistance
[M:01807]	CONFIGURATION ERROR!	Missing system configuration file.	contact technical assistance
[M:01808]	CONFIGURATION ERROR!	Missing system configuration file	contact technical assistance
[M:01809]	CONFIGURATION ERROR!	Missing system configuration file	contact technical assistance
[M:01810]	CONFIGURATION ERROR!	Missing Serial Number.	contact technical assistance
[M:01811]	CONFIGURATION ERROR!	Missing system configuration file.	contact technical assistance
[M:01901]	ERROR C-ARM PARKING!	Error during the Tube Arm repositioning.	Call technical assistance
[M:01902]	ERROR C-ARM PARKING!	Up/Down motor busy.	Call technical assistance
[M:01903]	ERROR C-ARM PARKING!	Up/Down motor activation Timeout.	Call technical assistance
[M:01904]	ERROR C-ARM PARKING!	Up/Down positioning failed.	Call technical assistance
[M:01905]	ERROR C-ARM PARKING!	C-ARM rotation Timeout.	Call technical assistance
[M:01906]	ERROR C-ARM PARKING!	C-ARM shall be rotated to 180° to proceed.	Follow indications
[M:01907]	C-ARM PARKING ACTIVATION!	Be careful, C-ARM is moving.	Follow indications
[M:01908]	C-ARM UNPARKING ACTIVATED!	Be careful, C-ARM is moving.	Follow indications
[M:01909]	C-ARM PARKING ACTIVATION ERROR!	The Parking position isn't calibrated.	Call technical assistance

**TABLE 3**

- **Column 1:** Error message displayed. They are listed in alphabetic order.
- **Column 2=** What do to. In this section only actions by service are listed.

The following messages are displayed **ONLY** on the AWS DSP:

CODE	MESSAGE (EN)	SERVICE CORRECTIVE ACTION
[E001]	40 mm PMMA on detector 2 mm Al filter on collimator Remove potter and compressor	check integrity of components
[E002]	A problem occurred.	check integrity of components
[E003]	A shading for this AF/context already exists.\nAre you sure?	check integrity of components
[E004]	Access Denied	check integrity of components
[E005]	Account created.	check integrity of components
[E006]	Account deleted	sensor not configured. Contact manufacturer
[E007]	AEC calibration for this AF/context already exists.\nAre you sure?	sensor replaced or Alarms found. Call Manufacturer to obtain password to continue
[E008]	All calibrations for this combination will be DELETED.\nAre you sure?	Call Manufacturer to obtain password to continue
N.A.	Are you sure you want to delete profile for selectedUser? This operation is not reversible!	follow directions
N.A.	Backup complete!	Take note of what's reported in the log and contact Metaltronica S.p.A.
N.A.	calibrating mA: XX measured mA: XX Is the value OK?	If you are not sure about the performing of the calibration for an already existing A/F combination, cancel the operation
N.A.	Cannot create a user with the inserted user name. Please choose a different one.	Try to recreate the user profile, to restore a functioning system backup or to restore the factory image. Contact Metaltronica S.p.A.
N.A.	cannot open log file. Logging of some of the following operations might be unavailable.	Informative. Continue normally with your work. Closing the SW, you will log off and the user account just created will be present in the logon screen.
N.A.	CAUTION!!! kV value is outside acceptable range. +The VDAC value is automatically corrected. +Please retry	Informative. Continue normally with your work. Closing the SW, you will log off and the account just deleted will not be present on the logon screen anymore.
N.A.	CAUTION!!! Subsequent variations for this A/F combination\nwill DELETE all calibrations for it.\nAre you sure of what you are doing?	if you are not sure about the performing of the AEC calibration for an already existing A/F combination, cancel the operation
N.A.	Cluster too big	If you are not sure about the new A/F combination for an already existing combination, cancel the operation
N.A.	Config file not found	Select "Yes" of your really want to delete the profile. "No" to abort the procedure.
N.A.	Correct all points?	Select OK. If you created the DVD(s), make sure that no disk remained in the drive.
N.A.	Correct from this point on?	Procedural.
N.A.	Correct this point only?	Select a user name different from "Master", "DMDToolkit", "ManageUsers", "RemoteAssistance" or "DMD". In case the problem is still not solved, contact Metaltronica S.p.A.
N.A.	Depth not acceptable	Select Ok. The current procedure will continue normally.
N.A.	Error activating app: "n"	Informative
N.A.	Error in AETitle field	If you are not sure about the definition of the new A/F combination, cancel the operation

CODE	MESSAGE (EN)	SERVICE CORRECTIVE ACTION
N.A.	Error in IP field	Check if the image has any artifact. Contact Metaltronica S.p.A.
N.A.	Error in Port field	Export log files and contact Metaltronica S.p.A.
N.A.	Error in Timeout field	Procedural.
N.A.	error XX	Procedural.
N.A.	Export procedure complete	Procedural.
N.A.	ImageJ not found	Change marker.
N.A.	Insert a clean disk in the drive and select OK.	Insert a correct AETitle or abort the server definition.
N.A.	Insert column?	Insert a correct IP or abort the server definition.
N.A.	Insert pixel?	Insert a correct port number or abort the server definition.
N.A.	Insert row?	Insert a correct Timeout or WaitSend or abort the server definition.
N.A.	Insert the DISK of the desired backup and select OK.	contact Metaltronica S.p.A
N.A.	Insufficient Privilege	Pull out the DVD eventually still remained in the drive and then select OK.
N.A.	Invalid Parameter	contact Metaltronica S.p.A
N.A.	Invalid value	Insert a writable DVD in the drive, close the tray and select OK. Alternatively, select Cancel to abort the DVD creation procedure. The captured image will remain valid.
N.A.	kV for XX mm	Confirm the insertion of a column in the defect map
N.A.	low kV high kV low iA high iA	confirm the insertion of a pixel in the defect map
N.A.	mAs for XX mm	Confirm the insertion of a row in the defect map
N.A.	No A/F defined	Insert the required DVD in the drive, close the tray and select OK.
N.A.	No A/F defined	Try to recreate the user profile, to restore a functioning system backup or to restore the factory image
N.A.	No A/F defined	Try to recreate the user profile, to restore a functioning system backup or to restore the factory image
N.A.	No A/F defined	Insert valid data
N.A.	No A/F defined	follow directions
N.A.	No A/F defined	Contact Metaltronica S.p.A
N.A.	No A/F defined	follow directions
N.A.	No disks found	Select an Anode/Filter combination before performing the exposure.
N.A.	No monitors to activate app	Select an Anode/Filter combination before performing the exposure.
N.A.	No monitors to activate app	Select an Anode/Filter combination before performing the exposure.
N.A.	Partial data downloaded	Select an Anode/Filter combination before performing the exposure.
N.A.	Path Not Found	Select an Anode/Filter combination before performing the exposure.
N.A.	PEGASUS interface not found	Select an Anode/Filter combination before performing the exposure.
N.A.	Place the phantom to cover all the detector and the 0.1 mm Aluminium in the center	.Select an Anode/Filter combination before performing the exposure.
N.A.	Place the phantom to cover half the detector	Check disks are correctly inserted in their slots and restart the system. In case the problem is still not solved, contact Metaltronica S.p.A.
N.A.	Put XX mm extra PMMA on detector	Check the connections of the video cables. Check integrity of the video board and the correct insertion on the motherboard. Contact Metaltronica S.p.A.
N.A.	Put XX mm PMMA on detector	Try again. Contact Metaltronica S.p.A.
N.A.	Remove column?	Try to recreate the user profile, to restore a functioning system backup or to restore the factory image
N.A.	Remove pixel?	Export log files and contact Metaltronica S.p.A.
N.A.	Remove row?	follow directions
N.A.	Restore complete!	follow directions
N.A.	RESTORING BACKUP TAKEN ON +bckDate+. The entire content of the C (OS) drive will be replaced with the backup image. Do you	follow directions

CODE	MESSAGE (EN)	SERVICE CORRECTIVE ACTION
	really want to continue?	
N.A.	RESTORING BACKUP TAKEN ON +bckDate+. The entire content of the DISK 1 (OS) will be replaced with the backup image. Do you really want to continue?	follow directions
N.A.	Return code= "n"	Confirm the cancellation of a column in the defect map
N.A.	Saving log file .....Insert media first then press OK	confirm the cancellation of a pixel in the defect map
N.A.	Selected backup does not exists	confirm the cancellation of a row in the defect map
N.A.	Temperature Control Failure. Contact technical assistance	Select OK and restart the system by means of the Quit button to start it in the just restored state.
N.A.	Temperature Control Failure. Contact technical assistance	Insert a writable DVD in the drive, close the tray and select OK. Alternatively, select Cancel to abort the DVD creation procedure. The captured image will remain valid.
N.A.	Temperature Control Failure. Contact technical assistance	Select Yes to start the restore procedure. Otherwise select No to abort the procedure.
N.A.	Temperature Control Failure. Contact technical assistance	contact Metaltronica S.p.A
N.A.	Temperature Control Failure. Contact technical assistance	Repeat the procedure selecting a different image. Otherwise, try to restore from DVD(s). In case the problem is still not solved, contact Metaltronica S.p.A.
N.A.	Temperature Control Failure. Contact technical assistance	Contact Manufacturer
N.A.	Temperature Control Failure. Contact technical assistance password:....	Check the connection of the displays. Check the correct insertion of the graphic board on the motherboard. Check integrity of components.
N.A.	The backup process is now going to be started. Do you wish to continue?	Select Yes to start the capture of the backup image. Otherwise abort the procedure selecting No.
N.A.	The command completed successfully.	Informative. Continue normally with your work
N.A.	The command completed successfully.	Informative. Continue normally with your work.
N.A.	The Drive 1 is not partitioned, maybe you inserted a brand new disk. To continue, we need to prepare the disk first. When done, the system will restart and you'll need to launch the current procedure again.	Follow the directions on the screen. At the end, the system will restart. Enter in the BackupRestore again and repeat the restore procedure started before.
N.A.	The entire content of the DISK 1 (OS) will be replaced with the factory image. Do you really want to continue?	Select yes if you want to restore the factory image. Otherwise, abort the procedure selecting no.
N.A.	The OS volume letter is not correct. Restart the system and try again	Restart the system by means of the Quit button. Enter again in the BackupRestore and repeat the procedure.
N.A.	The system will now restart. Do you wish to continue?	Select Yes to restart the system. Otherwise abort the closing procedure by selecting No.
N.A.	The user selected is a built-in account that cannot be deleted. Please choose a different one.	Informative. Select an account which can be deleted or abort the procedure. In case the problem is still not solved, contact Metaltronica S.p.A.
N.A.	This test requires 150N compression force	Correct
N.A.	This test requires 40mm PMMA under compression	Correct
N.A.	tMaxPwAge.Item2	Follow the instructions in the error message. In case they are not clear enough, take note of the message and , contact Metaltronica S.p.A
N.A.	tMinPwLen.Item2	Follow the instructions in the error message. In case they are not clear enough, note of the message and contact technical assistance. If the problem persists, contact Metaltronica S.p.A
N.A.	Too much points...check setup and retry	Check if the image has any artifact. Contact Metaltronica S.p.A.
N.A.	Unable to create PEGASUS pipe	Export log files and contact Metaltronica S.p.A.

CODE	MESSAGE (EN)	SERVICE CORRECTIVE ACTION
N.A.	Unable to identify Mammo	Check if the mammography unit is turned on and the correct connection and functioning of the corresponding ethernet cable, of the lan ports and of the network cards.
N.A.	Unable to launch OTSU server : yyyy	Exit the application and try again. Contact the maufacturer
N.A.	Unable to launch xxxxxxx : yyyy	Exit the application and try again. Contact the maufacturer
N.A.	Unknown Failure	Try to recreate the user profile, to restore a functioning system backup or to restore the factory image
N.A.	Unknown return value	Try to recreate the user profile, to restore a functioning system backup or to restore the factory image
N.A.	Value XX is not valid. Cannot download	Perform the calibration for the given value and try again
N.A.	Warning("Detector not initialized")	Check if the detector is turned on and the correct connection and functioning of the corresponding ethernet cable, of the lan ports and of the network cards. Export log files and contact Metaltronica S.p.A.
N.A.	Warning("Detector not responding Maybe off...")	Check if the detector is turned on and the correct connection and functioning of the corresponding ethernet cable, of the lan ports and of the network cards. Export log files and contact Metaltronica S.p.A.
N.A.	Warning("Mammo not responding Maybe off...")	check the integrity of network cards, LAN ports and ethernet cable
N.A.	win exception (profileCreationErrMsg)	Follow the directions in the message. In case the problem is still not solved, contact technical assistance. In case the problem is still not solved, contact Metaltronica S.p.A.
N.A.	win exception (profileDeletionErrMsg)	Follow the directions in the message. In case the problem is still not solved, contact Metaltronica S.p.A.
N.A.	Wrong mAs	Correct the mAs and try again
N.A.	Wrong mAs	Correct the mAs and try again
N.A.	Wrong mAs	Correct the mAs and try again
N.A.	Wrong mAs	Correct the mAs and try again
N.A.	Wrong PMMA	Correct the PMMA and try again
N.A.	Wrong potter	Insert the biopsy device.
N.A.	Wrong Tg/Ta	insert correct data
N.A.	Wrong Thickness	Correct the thickness and try again
N.A.	Z-Cursor position	insert the distance between the patient support and the inferior part of the positioner in home position

## 2. REPLACEMENT

Please refer to spare parts list for components standard and detail for replacement.

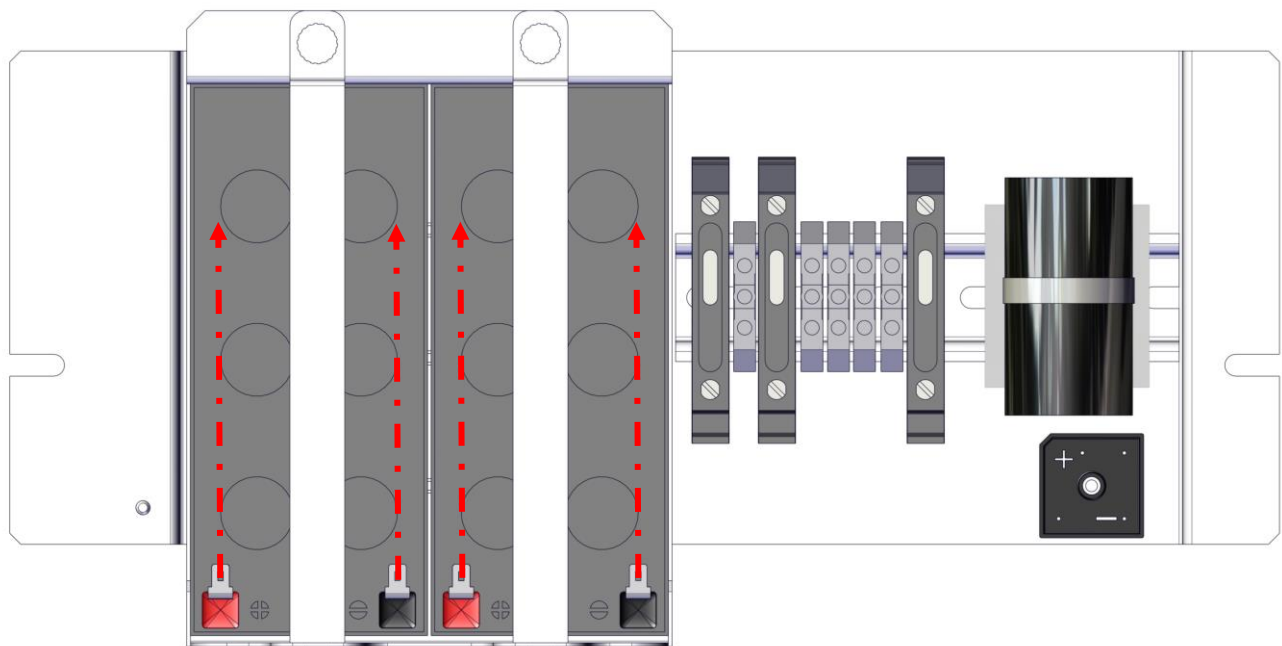
Particularly in case of each replacement procedure, Mammo unit must be disconnected by thermal magnetic circuit breaker.

Please refer to details in chap.3 (PROTECTIVE MEASURES) for part connected to line voltage when Mammo unit is switched OFF.

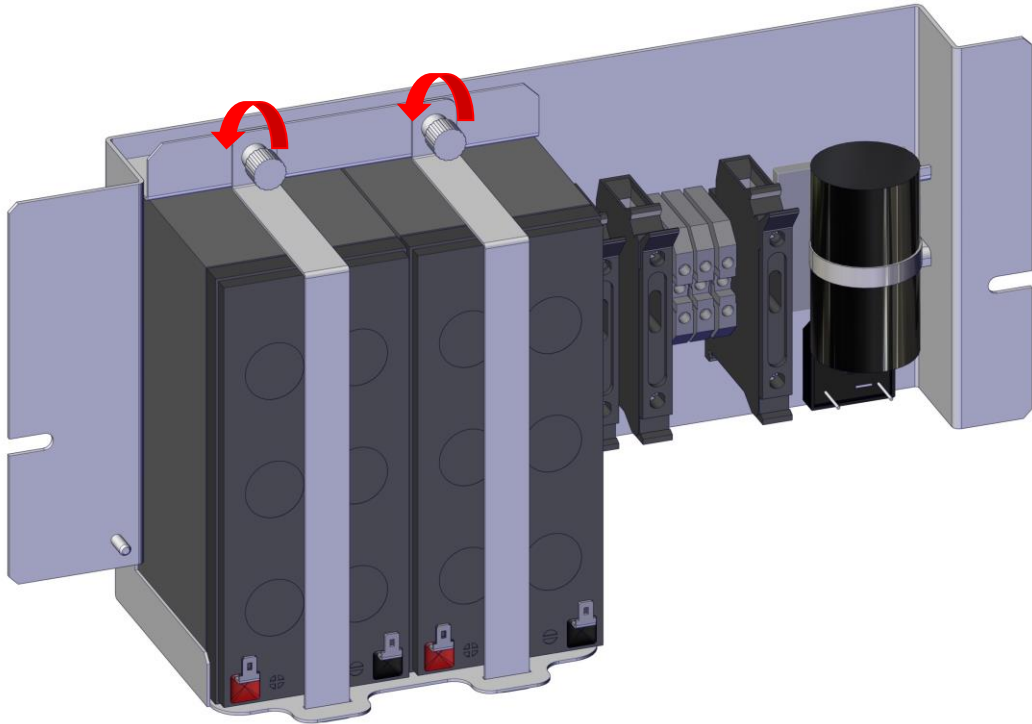
### 2.1. UPS INTERNAL BATTERY REPLACEMENT

The typical UPS battery lifetime is 1-3 years (depending on the number of discharge cycles and operating temperature). For replacement, if necessary, follows these steps:

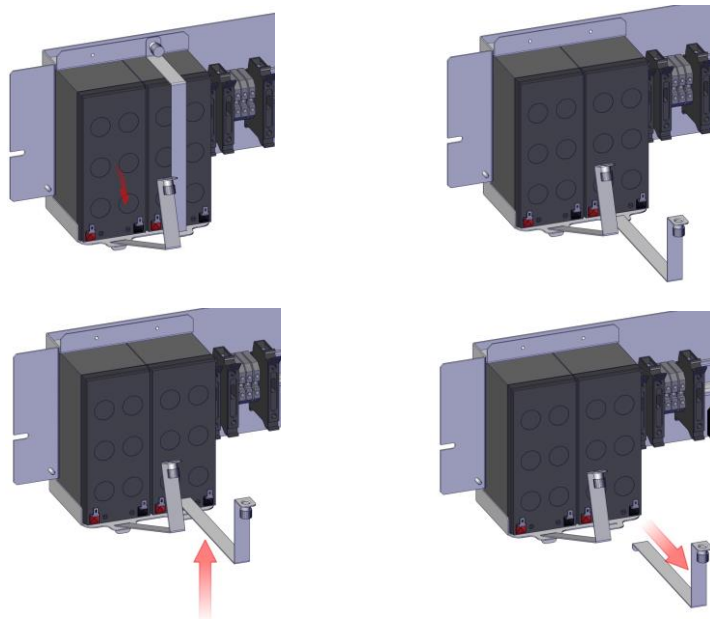
1. Switch off the UPS by mean of button into the backside panel;
2. Disconnect cables as show in the pictures (Please, pay attention to their polarity):



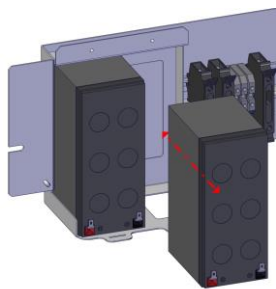
3. Unscrews two M4 to unlock for batteries replacement:



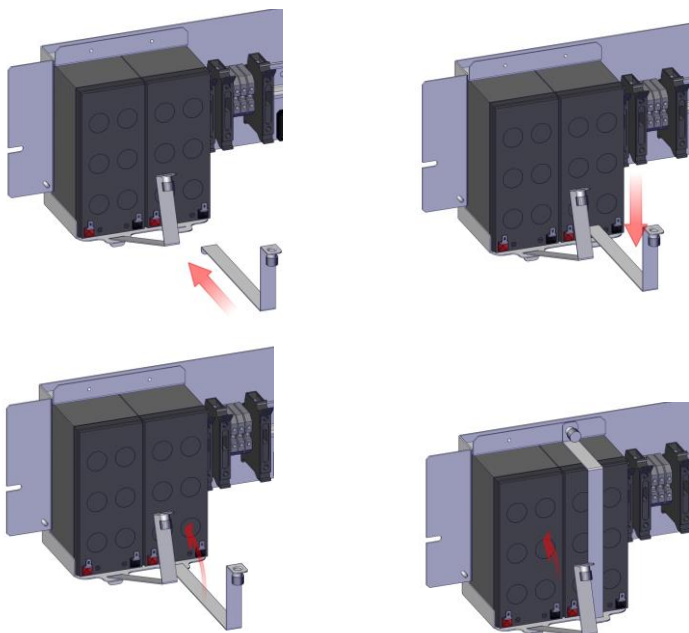
4. Unlock batteries removing sustaining bracket as shown in the figures



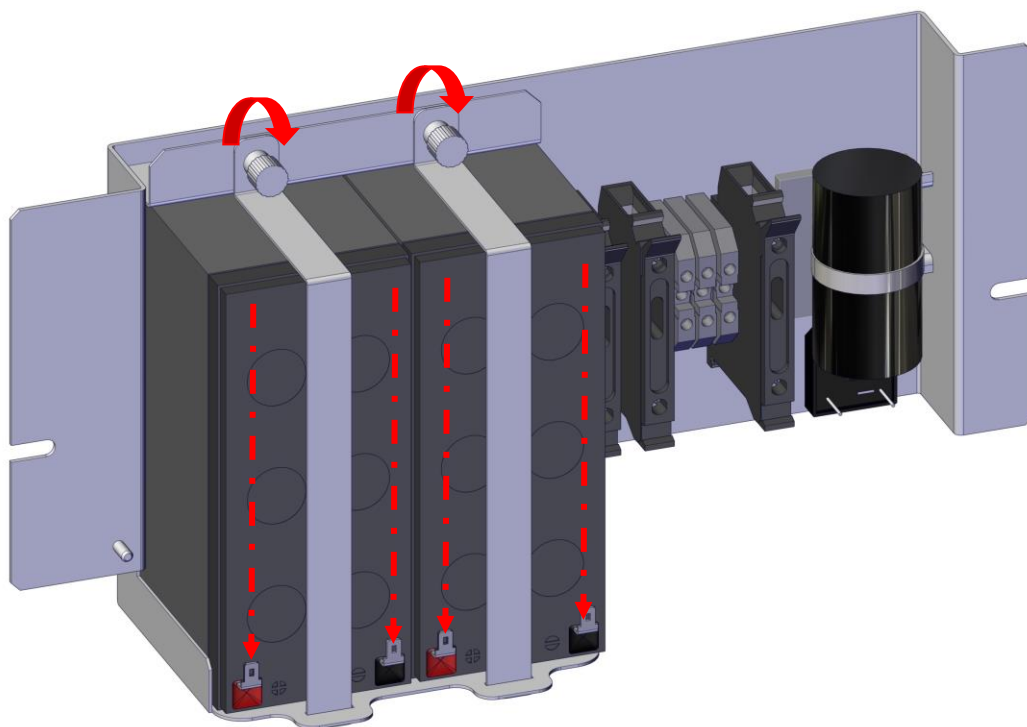
5. Replace the batteries as show in following figure



6. Lock batteries with bracket as shown in the pictures



7. Lock two screws and reconnect cables.

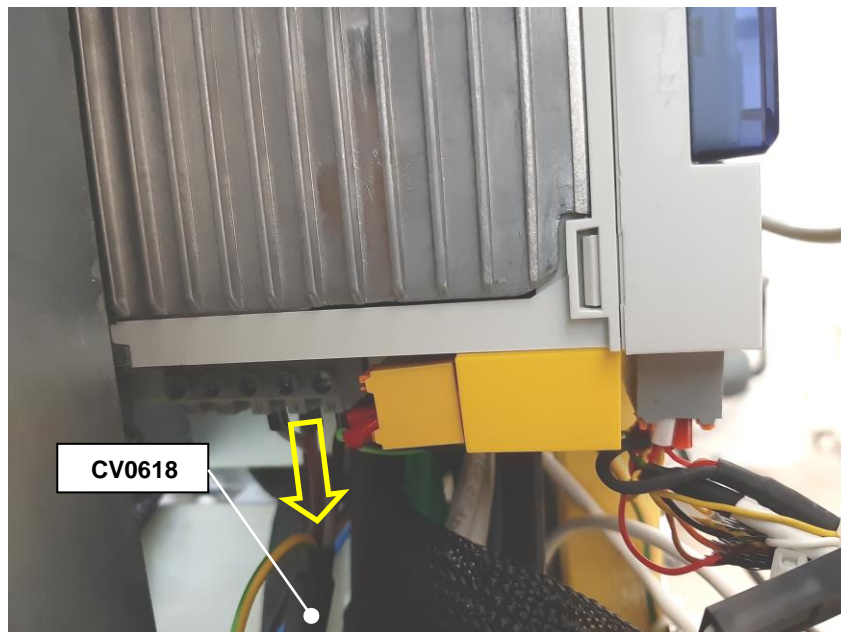


### **3. DRIVER LENZE REPLACEMENT**

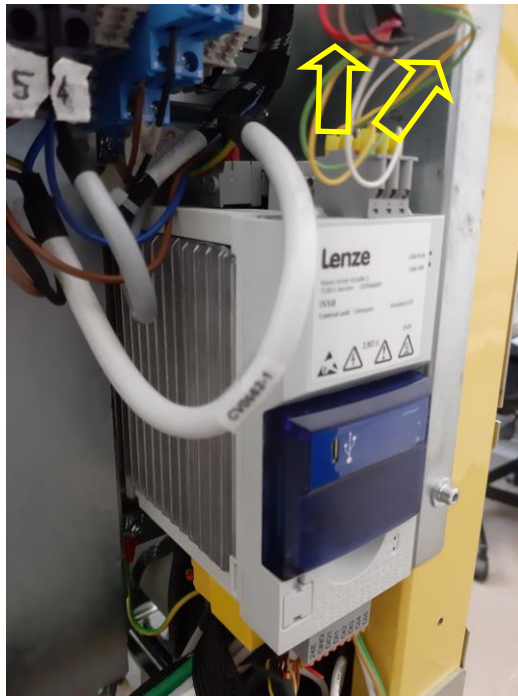
#### **3.1. DISASSEMBLY**



- Remove the motor cable (**CV0618**) from the PIN U, V and W and PE of the Driver Motor (see the following picture)



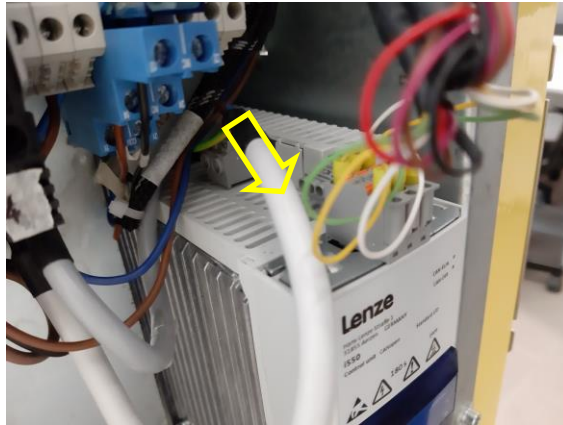
- Remove CAN BUS cables (Touch Master **CV0786** and Motorized rotation **CV0785**)



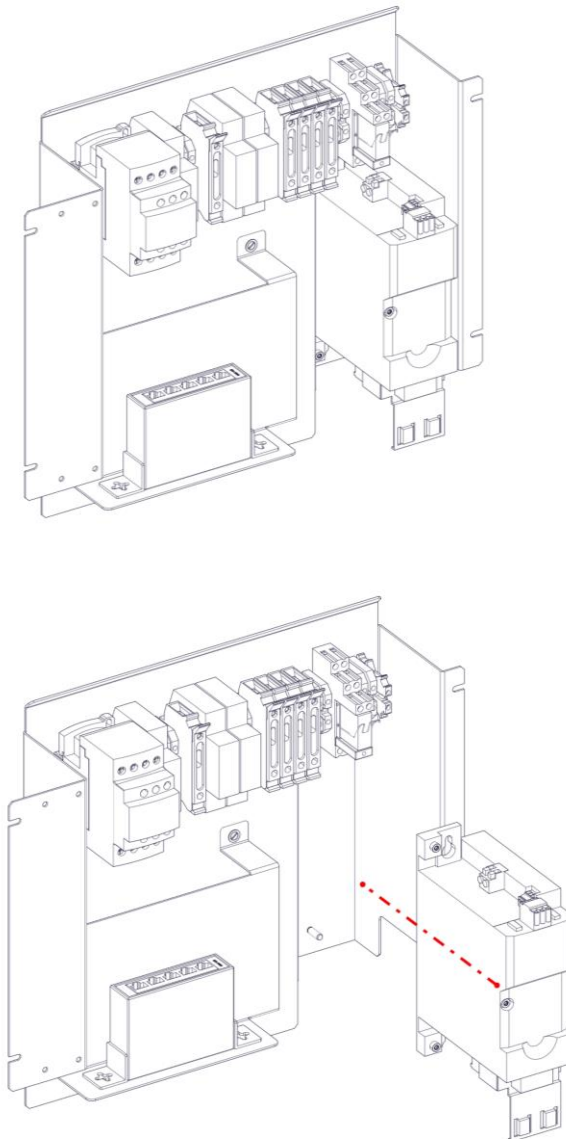
- Remove cables **CV0788** (to potentiometer); **CV0619** (to motor thermoswitch) and **CV0776** , disconnect wires connector as shown in the figure



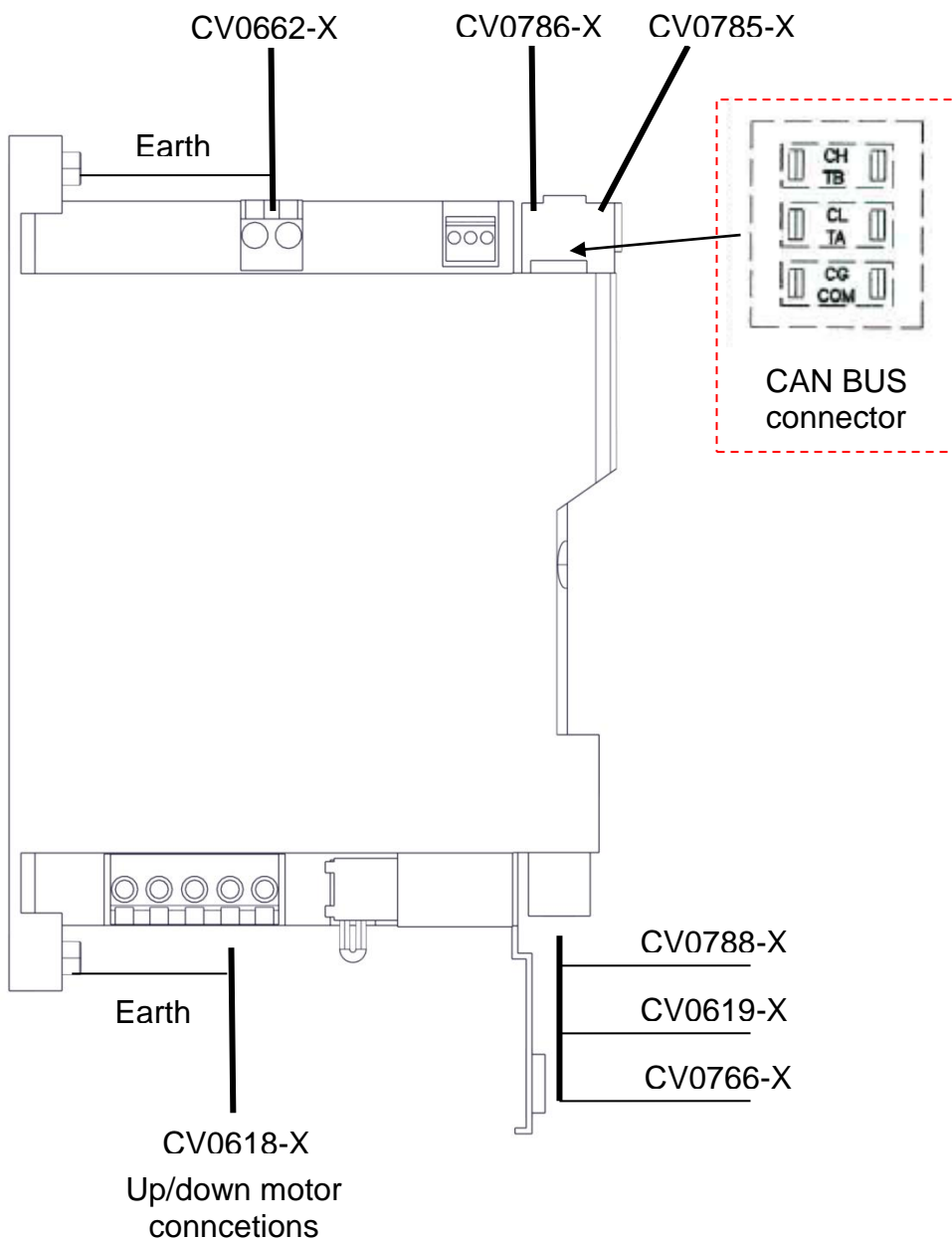
- Remove the cable CV0662 and its protective earth from the motor driver (see the following picture)



- Unscrew the Motor Driver from the plate and replace it



- Reconnect all cables as shown in the following wiring scheme



### 3.2. SET UP

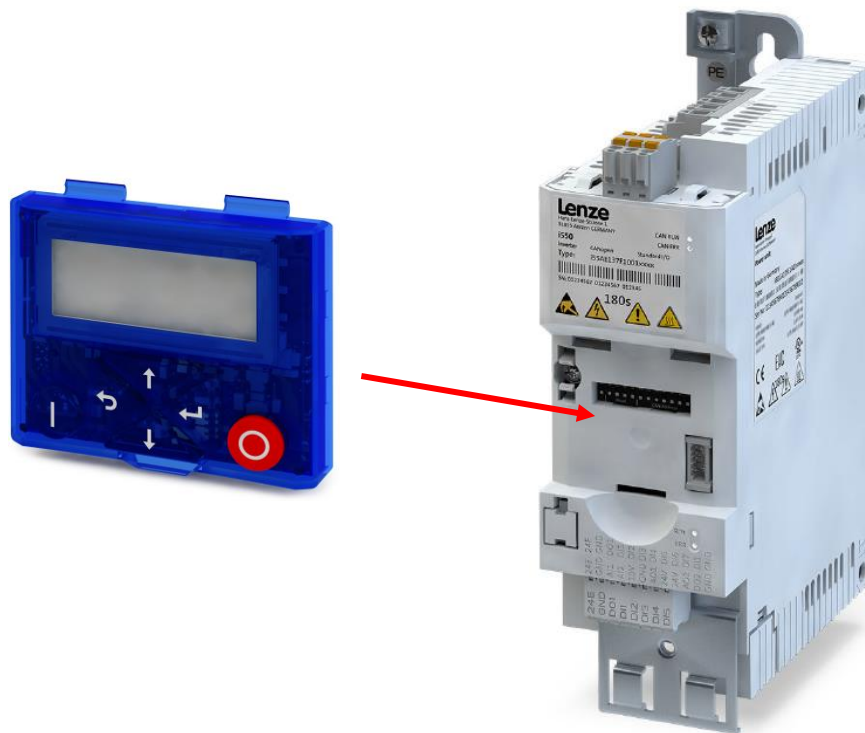
After Lenze driver replacement, DIP switch must be configured (If the driver has been set by Metaltronica S.p.A jump procedure):



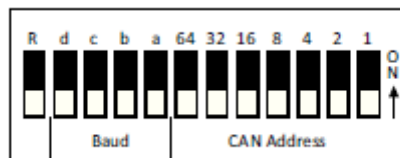
In order to set the motor driver it is necessary to have the dedicated Lenze keypad shown in figure and provided by manufacturer on request. Set parameters cannot be changed without the keypad.

The keypad is an easy means for the local operation, parameterization and diagnostic of the inverter. The keypad can also be connected and removed during operation.

Function of keypad keys in operating mode			
Key	Actuation	Condition	Action
	Shortly	Local keypad control active. Display "LOC"	Run motor.
		Remote control active Display "REM" Display "KSTOP"	Deactivate keypad triggered stop. The motor remains at standstill. Display changes from "KSTOP" to "STOP".
	Shortly	No Jog operation	Stop motor. Display "KSTOP"
	Shortly	Operating mode	Change to parameterisation mode. ▶ Keypad parameterisation mode □ 554
	Longer than 3 s	None (anytime possible)	Save parameter settings in the user memory of the memory module.
	Shortly	During operation	Scroll through information in the above status line.
	Shortly	Manual setpoint selection via keypad active. Display "MAN"	Change frequency setpoint.
	Shortly	Operating mode	Activate full keypad control Display "ON?" → Confirm with ← Control and setpoint selection can now only be carried out via keypad. Renewed clicking: Exit full keypad control. Display "OFF?" → Confirm with ← ▶ Keypad full control □ 58
	Shortly	Local keypad control active. Display "LOC"	Reversal of rotation direction. Display "REV?" → Confirm with ← ▶ Configure R/F and CTRL keys □ 581



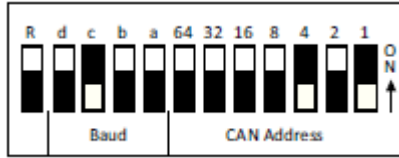
Use the DIP switch to set the node address, baud rate and to activate the integrated bus terminating resistors:



Bus termination	Baud rate				CAN node address							
R	d	c	b	a	64	32	16	8	4	2	1	
OFF	OFF	ON	OFF	ON	20 kbps	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Inactive	OFF	OFF	ON	ON	50 kbps	Value from parameter						
ON	OFF	OFF	ON	OFF	125 kbps	Node address - example:						
Active	OFF	OFF	OFF	ON	250 kbps	OFF	OFF	ON	OFF	ON	ON	ON
	OFF	OFF	OFF	OFF	Value from parameter (500 kbps)	Node address = 16 + 4 + 2 + 1 = 23						
	OFF	ON	OFF	OFF	1 Mbps							
	All other combinations				Value from parameter (500 kbps)							

- Integrated bus terminating resistors shall be “OFF”
- Baud rate shall be equal to **1 Mbps**
- Can node address shall be **5**

DIP switch of inverter Lenze shall be set as follow:



R	d	c	b	a	64	32	16	8	4	2	1
OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON

### 3.3. STATUS AND ERRORS HANDLING

Information about the CAN bus status can be obtained quickly via “CAN-RUN” and “CAN-ERR” Led in front of the inverter:

**Inverter not active on the CAN bus (yet)**

LED "CAN-RUN"	LED "CAN-ERR"	Meaning
off	off	Inverter is not active on the CAN bus.
	on	"Bus Off" state.
	Both LEDs are flickering alternately	Automatic baud rate detection active.

**Inverter active on the CAN bus**







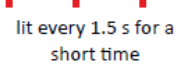




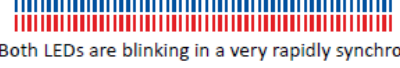
The green "CAN-RUN" LED indicates the CANopen state:

LED "CAN-RUN"	CANopen state
 blinking fast (5 Hz)	Pre-Operational
 on	Operational
 blinking 1x, then goes off for 1 s	Stopped

The red "CAN-ERR" LED indicates a CANopen error:

LED "CAN-ERR"	CANopen error
 blinking 1x, then goes off for 1 s	Warning Limit reached
 blinking 2x, then goes off for 1 s	Heartbeat Event
 blinking 3x, then goes off for 1 s	Sync message error (only possible in the "Operational" state)

The “RDY” AND “ERR” LEDs status display on the front of the inverter some quick information about operating states and its working:

"RDY" LED (blue)	"ERR" LED (red)	Status/meaning
off	off	No supply voltage.
		Initialisation (inverter is started.)
on	on	
	off	Safe torque off (STO) active. The inverter has been disabled by the integrated safety system. ▶ <a href="#">Safe Torque Off (STO)</a> <a href="#">548</a>
blinking (1 Hz)		Safe torque off (STO) active, warning present. The inverter has been disabled by the integrated safety system.
	off	Inverter inhibited.
		Inverter disabled, warning active. ▶ <a href="#">Error handling</a> <a href="#">610</a>
	on	Inverter disabled, error active. ▶ <a href="#">Error handling</a> <a href="#">610</a>
		Inverter inhibited, no DC-bus voltage.
		USB module is connected, 5-V supply voltage for the USB module is available.
on	off	Inverter enabled. <b>The motor rotates according to the specified setpoint or quick stop active.</b>
		Inverter enabled, warning active. <b>The motor rotates according to the specified setpoint or quick stop active.</b>
		Inverter enabled, quick stop as response to fault active. ▶ <a href="#">Error handling</a> <a href="#">610</a>
		Firmware update active. ▶ <a href="#">Update device firmware</a> <a href="#">514</a>
		"Visual tracking" function is active. ▶ <a href="#">Optical device identification</a> <a href="#">495</a>




## ERROR HANDLING

Different error types are defined:

- Error type "NO RESPONSE": the error is completely ignored and does not affect the running process;
- Error type "WARNING": a warning does not severely affect the process and may be also not considered respect to safety aspects;
- Error type "FAULT": The motor is brought to a standstill with the quick stop ramp. The inverter will only be disabled after the quick stop is executed (motor at standstill). In case of serious fault the inverter will be disabled immediately;
- Error type "TROUBLE": the error will be left automatically if the error condition is not active anymore. A possible exception is in case of several troubles: the inverter is

disabled immediately. The motor becomes torque less. An automatic restart can be configured.

The following table compares main difference between errors:

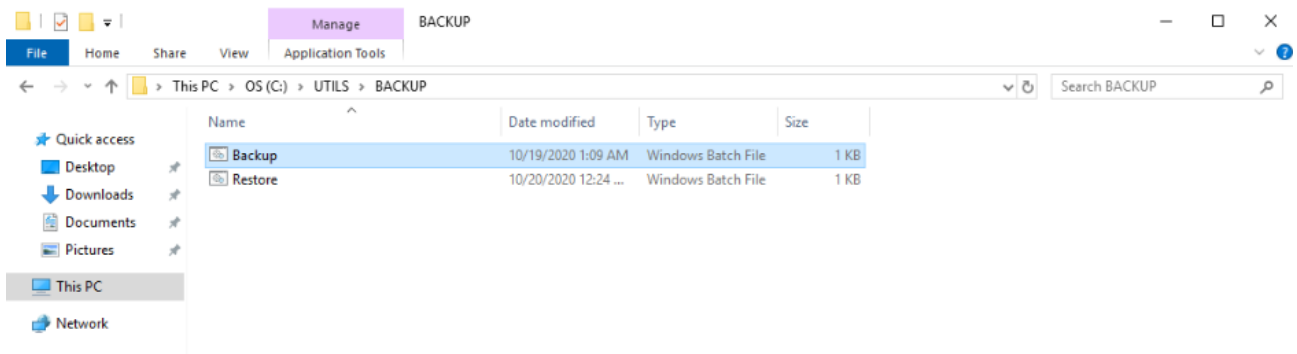
Error type	Logging in the Error history buffer / Logbook	Display in the CiA 402 status word 0x6041 (P780.00)	Inverter disable	Motor stop	Error reset is required	"ERR" LED (red)
No response	No	No	No	No	No	off
Warning	Yes	yes, bit 7	No	No	No	 blinking fast (4 Hz)
Trouble	Yes	yes, bit 3	after quick stop or immediately.	quick stop ramp or coasting.	No	 blinking (1 Hz)
Error	Yes	yes, bit 3			Yes	 on

## 4. PC BACKUP AND RESTORE

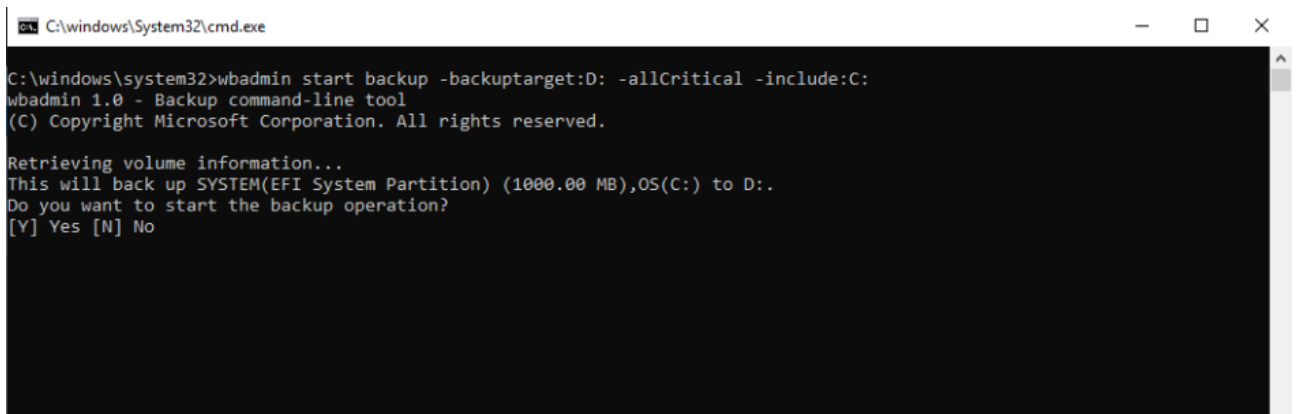
### 4.1. Backup

This procedure allows you to perform the backup for both storage configurations (1 & 2)

- A) Referring to the following figure, go to “This PC -> C: -> UTILS -> BACKUP” ;
- B) Click the right mouse button on “Backup” and select “Run As Administrator”.



- C) The following figure will appear on the screen;
- D) Type “Y” and press “ENTER”: the copy of the EFI and the partition where the OS was copied will start.



- E) At the end of this procedure, check that on disk D there is Windows Image Backup

*NOTE: it could be a hidden system folder.*

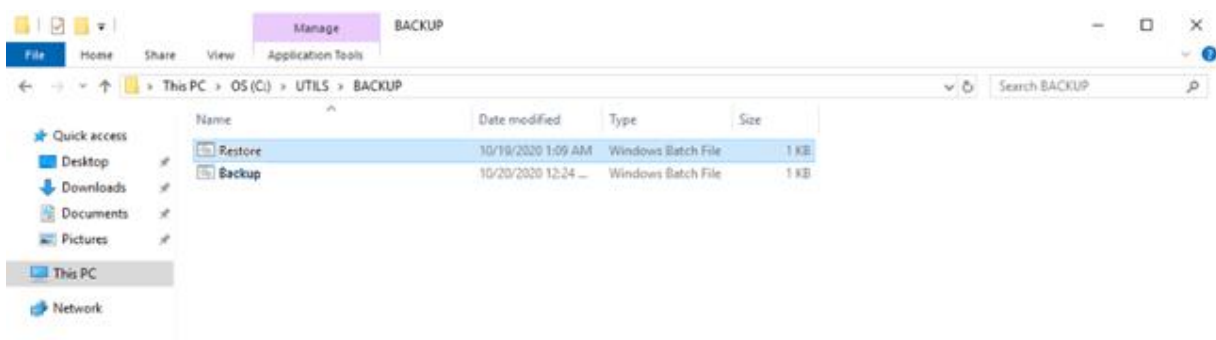
## 4.2. Restore

The Restore procedure assumes that, for example, there has been a failure on the SSD, therefore it will be necessary to replace it with an equivalent one and reinstall WIN10. The Restore will allow you to recover the data from the last Backup.

A) Referring to the following figure, go to “This PC -> C: -> UTILS -> RESTORE”;

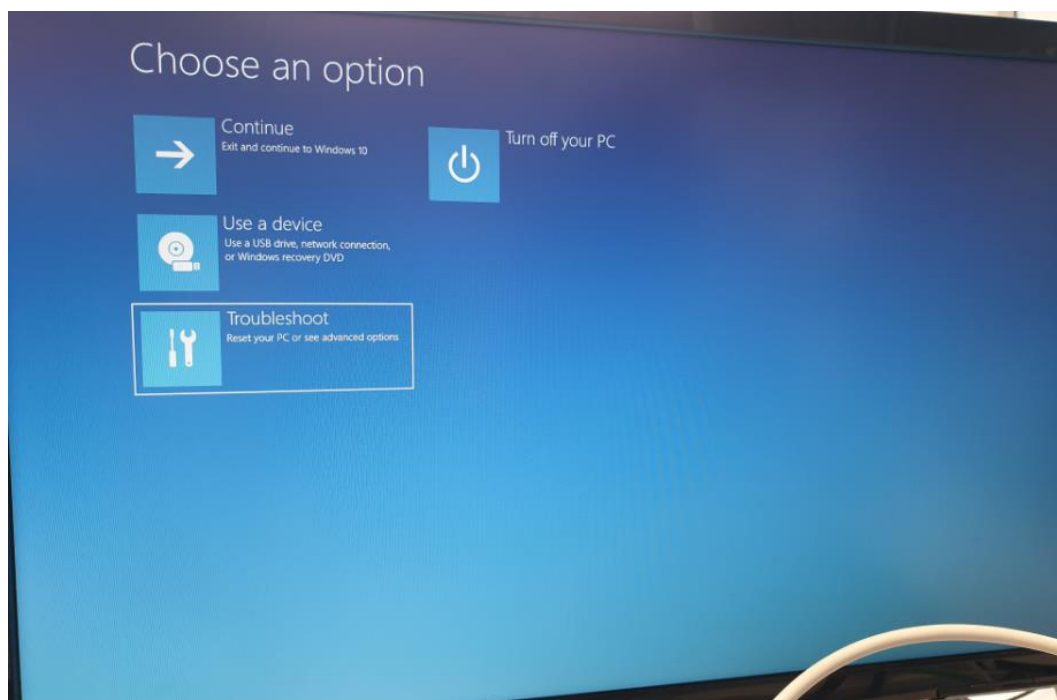
B) Click the right mouse button on “Restore” and select “Run As Administrator”.

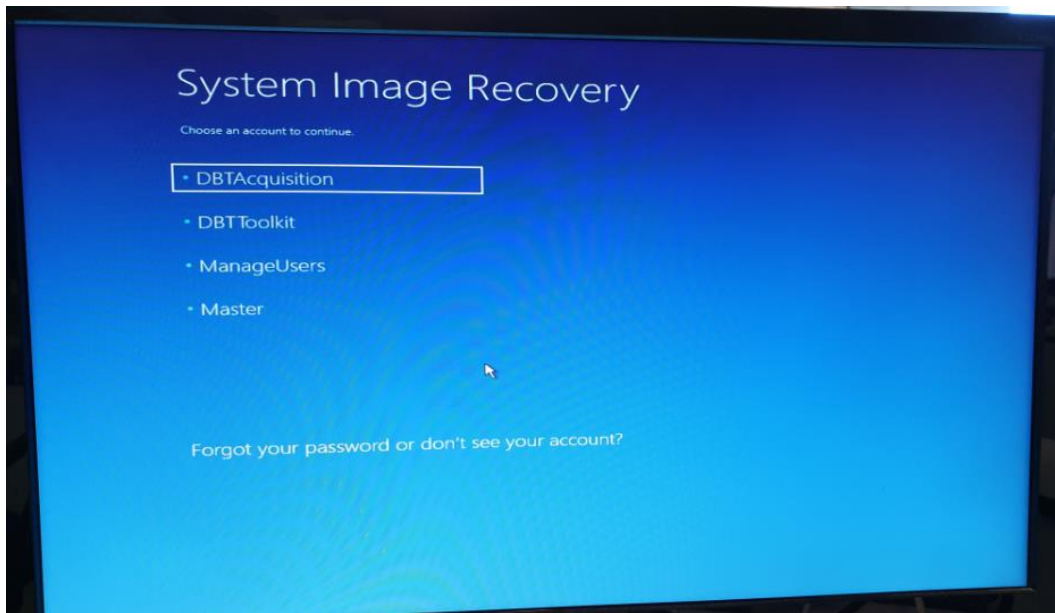
Then click on “close” in the Sign Out Window that appears.



A) After that, the following figure will appear on the screen;

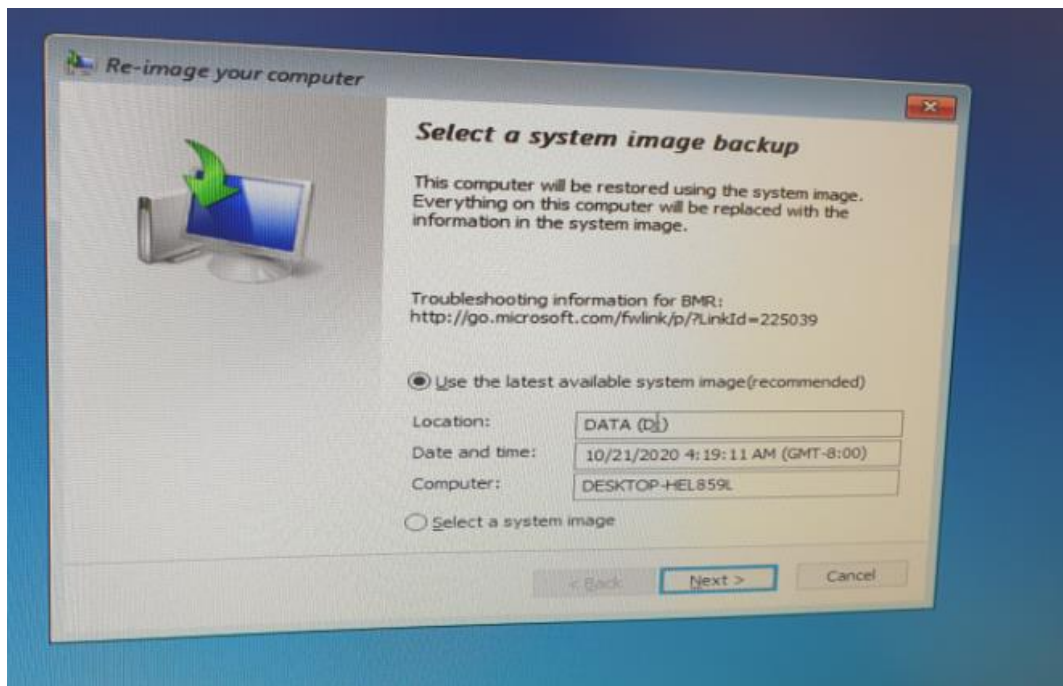
B) Click in sequence on Troubleshoot, Advance options, System Image Recovery and then select the Master Account:



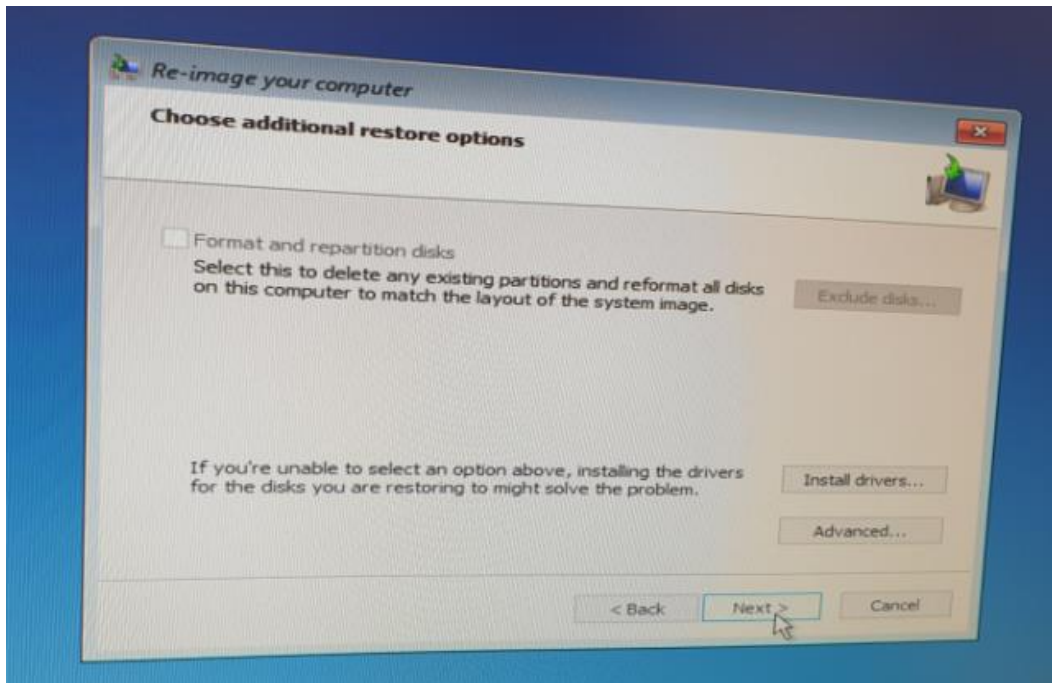


C) When prompted, enter the relevant password and click Continue.

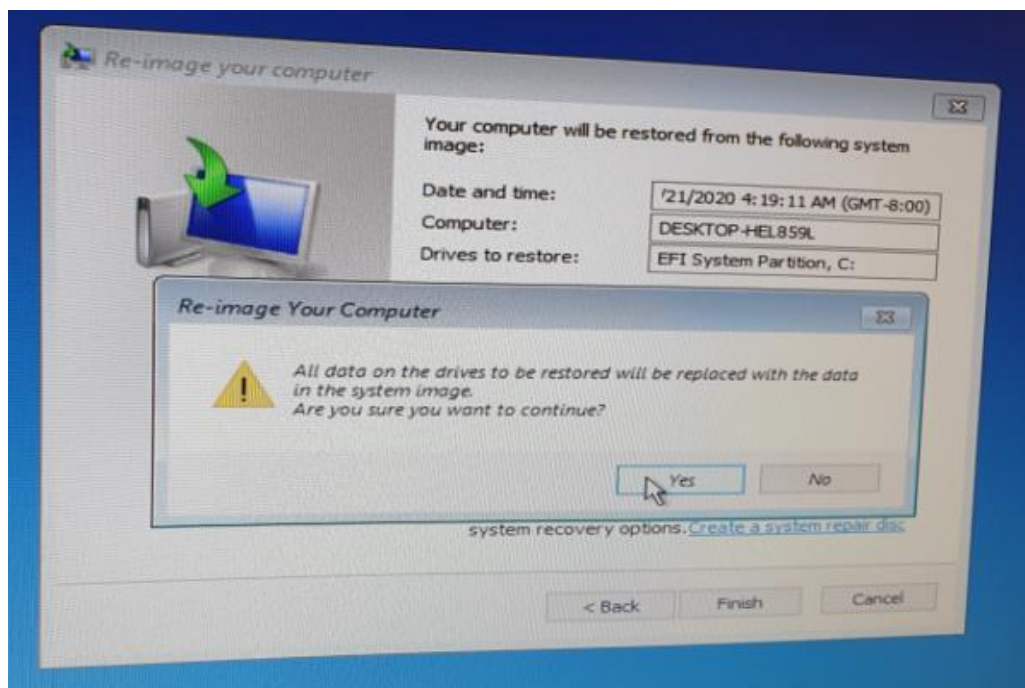
D) The system should recognize that the Backup has been saved, then click Next.



E) After that, the following figure will appear on the screen. Click again on Next



F) Click Finish and then Yes as shown in figure below:



G) Wait for the upload to complete:

