MARKANT

Matrix Click
Manual

Control Unit

⚠️ **Attention**

Risk of minor or moderate injury through crushing
Collision Detection (ISP) is inactive during start-up and reset processes.
This may lead to minor or moderate injury through crushing.

Ensure that no persons or objects are in the table's range of motion.

Notice

When in use for the first time, wait 10 seconds a.er plugging in the Power cord to reset the table.
The green LED lights up quickly to show the table can be resetted.

**Before using the Matrix Click System a Postion Reset Procedure must be carried out.**
You do this as follows:

› Press and hold the DOWN Key until the table stops at the lower position limit
› Release the DOWN Key
› Press and hold the DOWN Key again
  The table will move down slightly, then up again
› Release the DOWN Key
  The Position Reset Procedure is complete

Notice

If your Matrix Click system has been parameterized with additional stopping points
(e.g. a Safety Area or Container Stop Position), repeat Step 3 until the table has
moved upwards again.
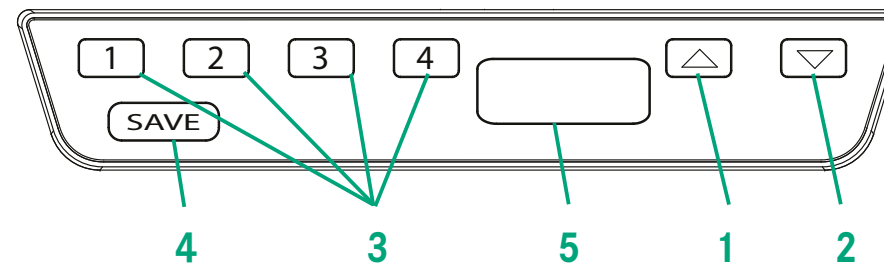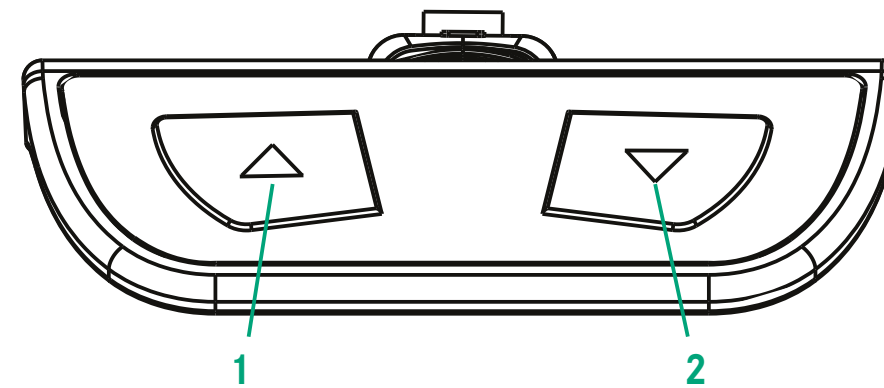
1 **UP button**
2 **DOWN button**
3 **Memory Position Keys**
4 **SAVE Key**
5 **Display**

Table top up
› Press the UP button on the hand switch.
› Keep the button pressed until the desired table top height is reached.

Table top down
› Press the DOWN button on the hand switch.
› Keep the button pressed until the desired table top height is reached.

Notice

The table top moves up or down until you release the button or until the maximum or minimum
height of the table top is reached.

Notice

The hand switch shouldn't be assembled underneath or in direct proximity to metal parts.

Notice

The hand switch was tested for interference immunity against high frequent electromagnetic
fields according to EC default standard EN 61000-6-2:2005. To ensure an interference-free
operation all electrical appliances in the surrounding area must comply with the test standard
EN55014.

5.3 Extended functions

Container-Stop on and off
(only possible in lower half of stroke)

Move the table to the desired position.
Then press **UP/DOWN** button simultaneously for 10 sec.
Container-Stop is now active.

Shelf stop on and off
(only possible in upper half of stroke)

Move the table to the desired position.
Then press **UP/DOWN** button simultaneously for 10 sec.
Shelf-Stop is now active.

5.4.1 Saving a memory position

› Move the table to the desired height ▲ ▼ , 7 3
   The display shows the Table Top height

› Press the SAVE Key ⬐SAVE

› Press the Memory Position Key 2 , 5 2 , 7 3
   The display shows S 2
   Afer about two seconds, the Table Top height is displayed again

5.4.2 Adjusting the table to a memory position

› Press and hold the required Memory Position Key (e.g. 2) 2 , 2
   The Table Top will move until the saved Table Top height has been reached
   If you release the Key before the Memory Position is reached, the table will stop

› Release the Memory Position Key 7 3
   Release the Memory Position Key

5.4.3 Changing the height display (cm/inch)

DMUI-HSU Handsets can display the height of the Table Top in both centimeters and inches. To change the displayed unit of measurement:

› Press and hold Memory Position Keys 1 and 2, alongside the UP Key 1 2 ▲ , 5 7
   The display shows S and a number, e.g. S 7

› Press the UP Key or DOWN Key until the display shows S 5 ▲ , 5 5
   The display shows S 5

› Press the SAVE Key ⬐SAVE
   If the display was previously set to cm, it is now set to inches
   If the display was previously set to inches, it is now set to cm

5.5 System Information

Signal	Message	Required Actions
No Light	System operating normally System not connected	Operate the Matrix Click System as normal. See configuration on page 13, picture 9.
Red Light Blinking	System Error Warning	Release all keys and wait for 5 seconds. Then, try to repeat the action again. Disconnect all components from the PowerHub. Disconnect the Power Hub from the Mains. Check the Power Hub for overheating. Let cool if necessary. Check all connections and reconnect the system. If problem persists: Perform a Position Reset Procedure (Chapter 5.1). Contact Markant.
Green Light Blinking	System Start-up Reset in Progress Duty Cycle Exceeded	Wait until the LED has stopped blinking to continue. Do not press any buttons. Remove the obstruction from the Table System. Remove unnecessary loads from the Table Top Operate the Matrix Click System as normal.
Green Light flashing Rapidly	Position Reset Required.	Performing a Position Reset Procedure.

Notice	Do not operate the Matrix Click system if problems persist. Contact Markant for further information.

5.6 Troubleshooting

Problem	Possible cause	Solution
The table does not move	The system is not plugged in.	Ensure that the system has been connected to the Power Hub correctly.
	The Actuator is not connected properly.	Ensure that the Actuator is properly connected to all components of the system.
	Poor plug connection.	Ensure that all plugs have been connected properly.
	The Actuator is defective.	Contact Markant.
	The hand switch is defective.	Contact Markant.
The table only moves slowly down-wards	There was power failure while the table was in motion. The Power Hub was disconnected while the device was in motion. Reset required.	Perform a Position Reset Procedure (see Chapter 5.1 Performing a Position Reset Procedure) .
	The Actuator is defective.	Contact Markant.
The hand switch does not work	The hand switch is defective.	Contact Markant.

6 Factory reset

To reset the Matrix Click System to its Factory Settings with a Basic Handset:

› Press the UP and DOWN button simultaneously, then release
› Press and hold the UP and DOWN button for 10 sec
   The LED will light up in Red
› When the LED light begins to blink, release the UP and DOWN button
› The Matrix Click system has now been reset to its factory settings

Crushing and shearing hazard!
When restoring the control system to the factory settings and when resetting, the collision protection ISP [Intelligent System Protection] is inactive.

› Make sure that no objects or persons are in the danger zone (safety

distance > 25 mm) and that they do not reach into the danger zone

Attention

8 Cleaning

Property damage due to improper cleaning.

› Do not use solvents or abrasives

› Use only dry, so. cloths for cleaning

Attention

› Always keep the handset and plug connectors free of dust deposits!

› Clean the control system and handset with a dry, soft cloth
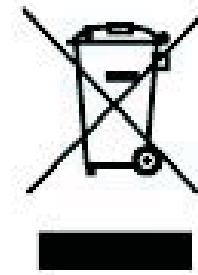
9 Disposal

Environmental damage due to improper disposal.

Notice

› Proper disposal serves as environmental protection and prevents possible

harmful effects to humans and the environment

Information on the disposal of electrical and electronic equipment in the European Union:

Within the European Union, the disposal of electrically operated equipment is governed by national regulations based on the EU Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE). In accordance with this, the device must no longer be disposed of with municipal waste or household waste. The device is accepted free of charge at municipal collection points or recycling centers. Product packing consists largely of recyclable materials. Dispose of it in an environmentally friendly manner and bring it in for recycling.

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10 Fehlder Codes DM-System

Nr.	Type	DMUI-TOUCH-B	DMUI-TOUCH-C	Name	Trigger	FW Reaction	Required Actions (to satisfy FW)
0	Error	RED_BLINK_SLOW_CONT		Invalid	Never (would be a bug)		
1	Error	RED_BLINK_SLOW_CONT	"Err"/No	FW Assert	Firmware runs into critical situation, operation cannot continue (might be combined with No. 21)	Hard Stop	Power Cycle
2	Error	RED_BLINK_SLOW_CONT	"Err"/No	Motor Over Current	(RESERVED – NOT YET IMPLEMENTED) Motor current overshoot maximal (parameterized) current.	Hard Stop	Release Button, try again
3	Error	RED_BLINK_SLOW_CONT	"Err"/No	DC Over Voltage	DC voltage exceeds limit	Deceleration	Release Button, try again
4	Error	RED_BLINK_SLOW_CONT	"Err"/"Con"	LIN Communication	Communication timeouts, Checksum/communication errors, short circuit on the communication bus	Hard Stop	Release Button, try again Power Cycle
5	Busy	GREEN_BLINK_SLOW_CONT	"ISP"	ISP (Collision)	Strain gauge sensor or motor current evaluation signaled a collision event	Hard Stop + Drive Back	Release Button, try again
7	Busy	GREEN_BLINK_SLOW_CONT	"hot"	Power Supply Overtemperature	Power supply voltage deceeds parameterized limit (self-protection feature of DMPx)	Active movement can be finished, new driving cycle blocked	Cool down power supply (voltage has to be above overtemperature limit), try again
8	Busy	RED_BLINK_SLOW_CONT	"Err"/No	Impulse Detection Timeout	No position feedback (impulses) within a configured time.	Hard Stop	Reference movement
9	Busy	GREEN_BLINK_SLOW_CONT	"hot"	Driving Duty Cycle	Operating time (movement) exceeds parameterized limit	Active movement can be finished, new driving cycle blocked	Wait parameterized time, try again
10	Busy	GREEN_BLINK_SLOW_CONT	"hot"	MCD Overtemperature	MCD temperature sensor or µC temperature sensor overshoots parameterized temperature limits	Deceleration, new driving cycle blocked	Cool down electronic, try again
11	Error	RED_BLINK_SLOW_CONT	"Err"/No	Cannot Follow (Movement)	Desired speed/acceleration cannot be achieved.	Hard Stop	Release Button, try again
12	Error	RED_BLINK_SLOW_CONT	"Err"/No	Power Stage Overcurrent	MOSFET current(s) exceed congured limits.	Hard Stop	Release Button, try again
13	Error	RED_BLINK_SLOW_CONT	"Err"/No	DC Under Voltage	DC voltage deceeds minimal required operating voltage for the microcontroller	Hard Stop (Fault cannot be stored in memory)	Release Button, try again
14	Error	RED_BLINK_SLOW_CONT	"Err"/No	Out Of Sync	Position of actuators is out of sync	Hard Stop	Release Button, try again
15	Error	RED_BLINK_SLOW_CONT	"Err"/No	Strain Gauge	Strain gauge signal saturates: broken sensor or wires	Deceleration, Not starting	Release Button, try again
17	Error	RED_BLINK_SLOW_CONT	"Err"/No	Compound Error	Something went wrong during wedding sequence, bus communication errors, faulty actuators, network configuration not consistent, network not working	Cannot happen during movement	Power Cycle and/or S0
18	Error	RED_BLINK_SLOW_CONT	"Err"/No	Nodes Incompatible (Wedding Sequence)	Parameterization and/or fimware version of drives within a compound are not compatible	Cannot happen during movement	Compatible parameterization and/or firm-ware and/or S0
19	Error	RED_BLINK_SLOW_CONT	"Err"/No	Wrong Number of Drives	Desired number of drives (according parameter) does not match with number of drives within the setup	Cannot happen during movement	Number of drives in the setup has to match with desired/parameterized number of drives options
20	Error	RED_BLINK_SLOW_CONT	"Err"/No	Motor short circuit and/or open load	Short circuit and/or open load detection of the microcontroller-internal detection mechanism triggered (short circuit or open load on at least one of the 3 phases of the motor)	Movement cannot be initiated	No short circuit nor open load on the three phases of the motor
21	Error	RED_BLINK_SLOW_CONT	"Err"/No	Critical firmware condition (safe-state)	A critical condition prevents correct firmware execution (watchdog, task runtime error)	Hard Stop	Power Cycle
22	Error	RED_BLINK_SLOW_CONT	"Err"/No	Powersupply overload	Power supply overload was detected (DMSystem voltage drop mechanism)	Hard Stop	Release Button, try again
23	Error	RED_BLINK_SLOW_CONT	"Err"/No	Motor Under Voltage	Supply voltage level is too low (according parameter) for driving the motor.	Hard Stop (or movement won't start)	Supply voltage has to be above limit, release button, try again