

KEYBOARD

FLEX is a temperature and humidity controller for high-tech industrial refrigerators. It exposes a local access point for connectivity to the CONNEX application and simultaneously to a router for accessing the CLOUD. The internal Data Logger allows over a month of temperature recording.

- In the event of a fault or an alarm, the ALARM icon will flash and the lower display will indicate the type of event with the buzzer active. It is silenced by pressing any key.

LEFT SIDE ICONS

- COOLING
- VENTILATION
- HEATING/DEFROST
- LIGHT

RIGHT SIDE ICONS

- UNIT
- ROUTER CONNECTED
 - Bluetooth (pairing)
 - CLOUD CONNECTED

LOWER ICONS

- COMPRESSOR RPM
- RUNNING ALARM



DOUBLE DISPLAY KEYS > LIGHT MENU UP DW ON/OFF

Upper display with white leds, lower display with blue leds

Special functions with direct access via keyboard:

KEYBOARD LOCK: (UP + DW)

OUTPUT TEST: (MENU + UP)

TURN TABLE / ELECTRIC KEY/ SWITCH "A" / RECIRCULATION FAN: (UP)

UP AND DOWN HOOD / SWITCH "B" / PROGRAM SELECTION (see page 16): (DW)

SHAFT LIGHT: (LIGHT) key short press if enabled

CONTROLLER SSID: (LIGHT) key long press

MENU

- Menus can be reached from MENU key and scroll through the UP/DW keys.
- Exit the MENU levels using the ON/OFF key.

M1: SET THE COLDROOM TEMPERATURE

From **M1/SET** press the MENU key: the set temperature appears. Use UP/DW keys to set the value. Confirm with MENU.

M2: START A DEFROST

From **M2/DEFR** press the MENU key. The command is refused if the conditions for defrosting do not exist. The double evaporator configuration allows the selection of defrosting on evaporator E1 or evaporator E2 or on both (FULL) which is selected by successive presses of the key MENU.

M3: SET THE HIGH TEMPERATURE LIMIT

From **M3/HI** press the MENU key and use the UP/DW keys to set the new value. Confirm with MENU.

M4: SET THE LOW TEMPERATURE LIMIT

From **M4/LO** press the MENU key and use the UP/DW keys to set the new value. Confirm with MENU.

M5: EXHIBIT THE EVENT LIST

From **M5/LIST**, press the MENU key: if there are no events, it displays *not* and exits, otherwise the upper display shows the **alarm index**, the lower display shows the **number of events**. **If it is a fault**, pressing MENU, the upper display shows the **fault index**, the lower display the **type of fault**; pressing MENU again displays the time, day, month and year of the event in sequence.

If it is an alarm, pressing MENU, the upper display shows the **temperature peak**, the lower one **the type**. Pressing MENU again the upper display shows the duration in minutes, the lower display shows in sequence the time, day, month and year of the event (see table pag.17).

M6: EXPOSES THE PROBES VALUES

From **M6/INFO** press the MENU key: the upper display shows the value, the lower display the type of variable. The variables are selected using the UP/DW keys.

M7: CONFIGURE THE LOWER DISPLAY

From **M7/MODE** press the MENU key and select modes using the UP/DW keys. Confirm with MENU. **1**: RTC time; **2**: Actions running (*); **3**: rpm compressor.; **4**: Rh% **5**: S2 Temperature. **6**: S3 Temperature. **7**: Setpoint on the upper display, time on the lower display. **8**: Humidity Set. **9**: Temperature Set. **12**: Program running (*) LABELS ACTIONS: **COOL**=cooling; **PAUS**=pause; **DEFR**=defrost; **HEAT**=heating; **DRIP**=dripping; **DRY**=dehumidification; **WARM**=humidifies; **ECO**=energy saving status; **STOP**=protection status.

M8: ERASE THE ALARM LIST

From **M8/ERAS** the long press of the MENU key erase the event list and *DONE* appears.

M9: PROGRAM THE PARAMETERS

From **M9/PROG** pressing the MENU key, if the password is different from zero, displays *000/PASS*; set it using the UP/DW keys and confirm with MENU. If the password is incorrect it displays *ERR* and returns to level M9, otherwise shows the first parameter EVO; the subsequent parameters are selected using the UP/DW keys. Once the parameter has been chosen, press the MENU key and modify the value with the UP/DW keys; confirm the new value by long pressing the MENU key.

M10: CLOCK SETTINGS

Clock setting causes the erase of the recording data.

From **M10/DATE** press the MENU key: the time appears with the measurement unit at the top right and the *HOUR* label. Change the value using the UP/DW keys and confirm with the MENU key; then the minutes, the day, the month and the year appear whose values will be changed in the same way using the UP/DW keys, confirming with the MENU key.

M11: SET PASSWORD SERVICE

From **M11/PASS**, press the MENU key: use UP/DW keys to select USER or SERVICE or RST submenu. USER password locks M1-M3-M4-M8-M15-M16 menu, SERVICE password locks M9 configuration menu; RST submenu allows the reset of the USER password if the SERVICE password is zero or by setting the SERVICE password if it's no equal to zero. If the password has not been set, **SET/PASS** appears for a few seconds then **000/PASS**. Set your password using the UP/DW keys and confirm with MENU. If instead the password is present, **000/PASS** appears. To modify it, use UP/DW keys to set its previous value and confirm with MENU; if it is correct, SET/PASS appears for a few seconds then the value of the previous password; set the new value with the UP/DW keys and confirm with MENU. If it has been set incorrectly, **Err** appears then exits the menu.

M12: SET NETWORK PARAMETERS

From **M12/AP** pressing the MENU key, display shows the MAC-ADDRESS with scrolling of the characters.

Subsequent presses of the MENU key present the following submenus:

- Setting the wifi transmission channel on which the controller is tuned: **N/ch**. Using the UP/DW keys it is possible to change the transmission channel from 1 to 11 only if the device is not connected to a router; the channel is confirmed by long pressing the MENU key.
- Clearing the network password: **RST/PSW**. Pressing MENU for a long time carries out the action.
- Clearing network settings: **OFF/net**. Pressing MENU for a long time carries out the action.
- Turn off the WIFI module: **ON/WiFi**; pressing MENU confirms the action and the device restarts with the WIFI module off. Power on the WIFI module: **OFF/WiFi**; pressing MENU confirms the action and the device restarts with the WIFI module on.
- Clearing user settings: **RST/USER**; pressing MENU confirms the action and the device restarts.

M13: SET THE LIGHT SWITCH-OFF TIME

From **M13/LOF**, pressing the MENU button the display shows OFF if a compartment light shutdown time has never been set or the shutdown time is displayed. Using the UP/DW keys, set the time the light goes out from 1 to 24 confirming with MENU key. After the message DONE exits the menu.

M14: SET THE REFRIGERATOR UNIT STARTING TIME

From **M14/COOL**, pressing the MENU button, the display shows OFF if a chiller unit start time has never been set or the start time is displayed. Using the UP / DW keys, set the switch-on time from 1 to 24 confirming with MENU. After the message *DONE* exits the menu.

M15: SET THE HUMIDITY PERCENTAGE

This menu is only available if the humidity function is enabled. From **M15/RH** press the MENU key: the set humidity set appears. Use UP/DW keys to set the value. Confirm with MENU key.

M16: SET THE SECOND ZONE TEMPERATURE

This menu is only available if the function is present in the refrigerator unit. From **M16/SET2** press the MENU key: second zone set temperature appears. Use UP/DW keys to set the value. Confirm with MENU.

M17 - SET THE SPEED OF THE EVAPORATOR FANS

This menu is only available if the **FSC** module or the **0-10V outputs** are connected. From **M17/SPEE** press the menu key and using the UP/DW keys set the speed % between the minimum and maximum values allowed.

M19: LIGHT MODULE MANAGEMENT

This menu is displayed if the Light Module is connected. Depending on the configuration, the following submenus are displayed in a mutually exclusive way:

- LUM/COL/SC1/SC2/SC3 if the RGB led bars is installed and LGH is configured with weight 512
- LUM/WHIT/SC1/SC2/SC3 if the W/C led bars is installed and LGH is configured with weights 512, 1024
- LUM if the warm/cold white led bar is installed and LGH configured with weights 512, 2048

From **M19/SET2**, press the **MENU** key and select the following submenu using the **UP/DW** keys, confirming with the menu key.

- **LUM**: sets the LED brightness from 0 to 100% using the **UP/DW** keys, confirms with the **MENU** key.
- **RGB**: the continuous or single pressure of the **UP/DW** keys allows the complete coverage of the color space on 7 ramps divided into 100 steps; the upper display shows the color gradation useful for replicating it on another unit (example 45E), the lower display shows the title of the submenu (**COL**).
- **WHIT**: continuous pressing of the **UP / DW** buttons allows complete coverage from warm white to cold white on 3 ramps divided into 100 steps; the upper display shows the shade of white useful for replicating it on another unit (example 12b), the lower display shows the title of the submenu (**WHIT**).
- **SC1/SC2/SC3**: Color gradation or hue can be stored in one of the three slots **SC1**, **SC2**, **SC3** for recall.

M20: SET ECO COOLING MODE

This menu is only available if the **ECO COOLING** function is enabled.

From **M20/ECO** press the **MENU** key and the **MODE** submenu appears which allows you to set the **OFF/AUT/MAN** operating modes using the **UP/DW** keys.

- **OFF**: function is disabled (default).
- **AUT**: automatic mode: if the door is closed for AES hours, the **Eco Cooling** function is activated.
- **MAN**: manual mode: allows to set the start and end times of the **Eco Cooling** function.

WORK PROGRAM SELECTION

For configurable refrigeration units, the selection of the work program can be chosen from the keyboard or from the **Connex** app. A long key press of the down key shows the program in progress on the lower display while the program to be selected is flashing on the upper display; once confirmed (done), by pressing the **MENU** key, the controller restarts with the new parameter map. Previous settings such as set change etc. are retained when switching from one configuration to another.

RUNNING EVENTS CODES

Hi	High temperature pre-alarm
ALARM Hi	High temperature alarm running
ALARM Hido	High temp. alarm running for open door
ALARM Hibo	High temp. alarm running for mains fail
ALARM Hitb	High temp. board alarm
Lo	Low temperature pre--alarm
ALARM Lo	Low temperature alarm running
ALARM Pr1-2-3-4	Probe NTC fail S1, S2, S3, S4
ALARM LoEu	Low evaporator temp. alarm running
ALARM HiCn	High condenser temp. alarm running
ALARM HP1	High pressure alarm running (unit 1)
ALARM HP2	High pressure alarm running (unit 2)
ALARM dEFr	Defrost Time--out
dEFr blinking	Defrost phase running

<u>WARNINGS</u>	
door	Door open
door with buzzer on	Door open beyond the maximum time
CP%	High compressor usage
CLEA	Dirty condenser

For compressors with inverters, fail status event is shown with Fxx code from F32 to F37.	F32 VSC_COMM F33 VSC_OVERLOAD F34 VSC_EXTREME_OVERLOAD F35 VSC_START F36 VSC_SHORTCIRCUIT F37 VSC_ROTOR
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RECORDED EVENTES CODES ON M5 MENU

UPPER DISPLAY	Pr1-2-3-4	Probe NTC S1, S2, S3, S4
LOWER DISPLAY	Prob	Probe Fail
UPPER DISPLAY	ntC	PCB probe
LOWER DISPLAY	Prob	Probe Fail
UPPER DISPLAY	T°	Maximum board temperature
LOWER DISPLAY	Hitb	PCB high temperature
UPPER DISPLAY	T°	Maximum condenser temperature
LOWER DISPLAY	HiCn	Condenser high temperature
UPPER DISPLAY	T°	Minimum evaporator temperature
LOWER DISPLAY	LoEu	Low temperature evaporator
UPPER DISPLAY	dI	D1 digital input
LOWER DISPLAY	door	Opened door time-out
UPPER DISPLAY	d2	D2 digital input
LOWER DISPLAY	HP1	High Pressure unit 1
UPPER DISPLAY	d3	D3 digital input
LOWER DISPLAY	HP2	High Pressure unit 2
UPPER DISPLAY	t°	Defrost max time
LOWER DISPLAY	dEFr	Defrost time-out
UPPER DISPLAY	T°max	Temperature peak
LOWER DISPLAY	Hi	High temperature alarm
UPPER DISPLAY	T°max	Temperature peak
LOWER DISPLAY	Hido	High temp. alarm for open door
UPPER DISPLAY	T°max	Temperature peak
LOWER DISPLAY	Hibo	High temp. alarm for mains fail
UPPER DISPLAY	T°min	Temperature peak
LOWER DISPLAY	Lo	Low temperature alarm

CONNEX APPLICATION

FLEX controller can be managed through the Connex application, which can be downloaded for free from the Play Store or Apple Store using access via the QR Codes printed on the sheet present in each refrigerator. The application allows the refrigerators management via internet connection after user registration.

REGISTRATI

CONNETTITI AL FRIGORIFERO

USER REGISTRATION

After the presentation pages, the registration page appears. All fields must be filled in following the step by step instructions. The Token field must be the one indicated on the sheet with the QR Codes.

CONNECT YOUR FRIDGE

14.0

TOKEN: K9cLhtg5

Fridge: FRIG01 - S/n: 499



Connex application for managing the refrigerator is available on the Play Store and Apple Store.





ATEX Industries Srl

Via Forgaria, 7 – Z.I. Ponterosso 33078 San Vito al Tagliamento (PN) Italy
mail: info@atex.it - Phone: +39 0434 85183 - www.atexindustries.it

CF/PI 01633400930