ALFASMART
Energy Management

Yatam Industrial Park P.O.B 233 Yoqneam 20692 Israel • Tel: + 972 4 9118000 • Fax: + 972 4 9118001 • info@alfa-smart.com • www.alfa-smart.com

GLADIOLA

INFRA-RED RECEIVER (IRR) UNIT

MODEL: ATDC-1 AlfaSmart P/N 1098735

PRODUCT DATA

ATDC-1

Automatic control of room temperature modulating the optimal air quantity with 5 damper shutter positions:
0% (closed), 25%, 50%, 75%, and 100% (opened) entering to the room from the HVAC unit. Manual control on air quantity entering the room from the HVAC unit. To adapt to any existing HVAC systems. Electronic IR Receiver unit model ATDC-1C with communication cable 6 m (standard long), to connect between IR Receiver and damper motor box. Remote Control wireless unit- ATRC-D "room thermostat" with "I FEEL" mode to communicate with electronic IR Receiver Unit.
This unit is designed to receive commands from Remote Control to control the motorized damper. It will display operation modes of the air damper assembly and perform a self- test of the system. The IR Receiver is connected to the damper's motor box by 6 wires phone cable (quick-connect).

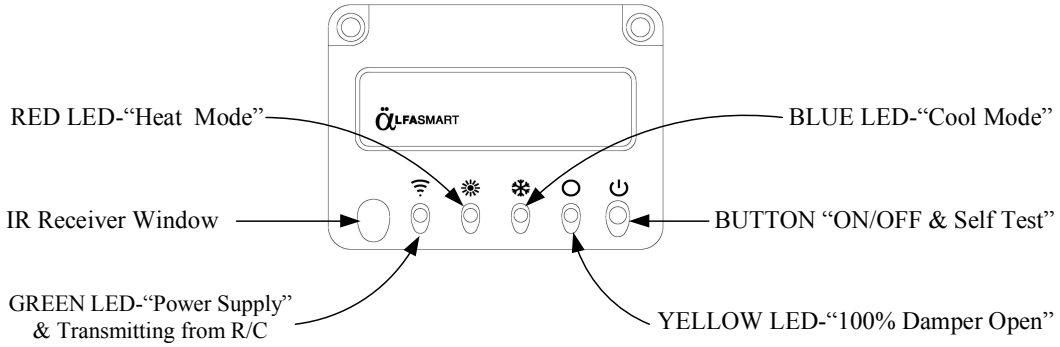
FEATURES

- Low voltage powered.
- Operation modes: Cool, Heat, Ventilation.
- Optimal control on air quantity entering the room by 5 damper shutter positions.
- "SELF TEST MODE" technician's assurance test for proper operation and installation.
- Display's operation modes by LED light at the IRR unit.
- Indication of R/C Unit signals reception by Buzzer at IRR unit.
- Push-button for manual start at IRR unit, for full opening & shutting of damper without Remote Control.
- Pace of updating data from R/C thermostat to IR Receiver - every 7 minutes.
- Suitable for any existing HVAC systems.
- Electronic IR Receiver unit model ATDC-1 with Communication cable 6 meter long, to connect between IR Receiver and damper frame. Screws to attach to wall or ceiling supplied.
- Friendly & easy installation with "plug and play" wiring.

IMPORTANT

- ✓ Make sure that all set components are disconnected from power source 230VAC, before any connections performed.
- ✓ Electric cables lengths provided have length and size limits. Do not extend length of electric or electronic cables, with out consulting distributor.
- ✓ The user must switch the system to operate the damper in the same mode, Cool or Heat, as the HVAC unit. Ventilation mode is allowed at all HVAC unit operation modes.

OPERATION MODES



1. Cool mode - Blue LED - "ON".
2. Heat mode - Red LED - "ON".
3. Damper fully open - Yellow LED- "ON".
4. Feed power proper - Green LED- "ON" continuously.
5. After 21 continuous minutes without contact to R/C Unit- Green LED flashing and damper fully opens (communication failure). Upon receiving command from R/C Green LED "ON" continuously and the system will operate as per last R/C Unit command.
6. Push-button ON/OFF and "SELF-TEST":

a). Short push on button will shut-off system (damper closed) or activate system (damper fully opened).
Note: Once a command is received from R/C Unit at this status, the system will operate as per R/C Unit command.

b). Continuous push 3 seconds will start "SELF-TEST" procedure. At beginning of the "SELF-TEST" a long "beep" is heard and damper will fully open (100%). All LED lights turn "ON". "SELF-TEST" procedure will proceed while closing of damper in 4 stages accompanied by short "beep" (75%, 50%, and 25%) every 10 seconds.
At end of each stage one LED light will shut-off up to full closing (0%), all LED lights "OFF" upon end of "SELF-TEST".
A long "BEEP" is heard and the damper will return to the last position of the R/C Unit before "SELF-TEST" began.
The R/C Unit has no effect on the system during "SELF-TEST".

c). **Note: Refrain from hiding the IR Receiver in a conduit, to avoid it being heated by the hot air (at HEAT). The IR Receiver must be exposed on the wall for "eye-contact" with R/C Unit.**

d). For installment of IR Receiver use the screws and anchors provided.

Yatam Industrial Park P.O.B 233 Yoqneam 20692 Israel • Tel: + 972 4 9118000 • Fax: + 972 4 9118001 • info@alfa-smart.com • www.alfa-smart.com

SYSTEM'S OPERATING PRINCIPALS

AUTOMATIC SHUTTER POSITIONS MODE:

Thermostat Operation Modes: COOL & HEAT.

Upon system OFF, the damper is fully closed. Upon turning ON, Room Thermostat always resets to mode setting of when it was shut "OFF". Damper will open to one of 5 desired positions in compliance with difference between the desired temperature and the real room temperature (see table below).

HEAT MODE Diff. in deg. Between Real / desired temp Δ=T(SP)-T(ROOM)	COOL MODE Diff. in deg. Between Real / desired temp Δ=T(ROOM)-T(SP)	Damper Opening Angle In percentage open
(0 ºC) or (0 ºF)	(0 ºC) or (0 ºF)	(close) 0%
(+0.5 ºC) or (+1.0 ºF)	(+0.5 ºC) or (+1.0 ºF)	25 %
(+1.0 ºC) or (+2 ºF)	(+1.0 ºC) or (+2 ºF)	50 %
(+1.5 ºC) or (+3 ºF)	(+1.5 ºC) or (+3 ºF)	75 %
(≥+2.0 ºC) or (≥+4 ºF)	(≥+2.0 ºC) or (≥+4 ºF)	(open)100 %

NOTE:

T(Room) = Real temperature,
T (SP) = Desired temperature.

MANUAL SHUTTER POSITIONS MODE:

Upon system at OFF, the damper is Fully Closed. Upon system at ON the damper will open to selected position of shutter when actual room temperature is higher (in Cool Mode) or lower (in Heat Mode) then desired temperature setting.

Ventilation Mode.
The damper unit operates regardless of real & desired temperatures.