Instructions and Advices to use the electronic controller Logik 19

ORIGINAL INSTRUCTIONS

(INDUSTRIAL CONTROL EQUIPMENT)
39UG
FILE: E316817

INDEX

CAUTIONS

LOGIK 19 IS AN INDUSTRIAL CONTROL EQUIPMENT (NOT A SAFETY ISTRUMENT) FOR THE OPERATION OF A SCREW COMPRESSOR WITH SOFTWARE CLASS A (see EN 60730-1 and EN 60335-1).
THE INSTALLATION MUST BE MADE IN ACCORDANCE TO THE LOCAL AND INTERNATIONAL STANDARDS AND REGULATIONS WHERE THE COMPRESSOR IS MANUFACTURED.
THE INSTALLATION AND START UP OF THE CONTROLLER MUST BE CARRIED OUT BY TRAINED PERSONNEL WELL KNOW IN THIS MANUAL.
THE CONTROLLER HAS TO BE USED IN STANDARD INDUSTRIAL ENVIRONMENT AND IT CAN NOT BE USED IN EXPLOSION RISK ENVIRONMENT, MARITIME AND MILITARY PURPOSE.
THIS MANUAL COULD BE SUBJET TO CHANGES; PLEASE CONTACT LOGIKA CONTROL TECHNICAL OFFICE IN CASE OF DOUBT ON THE LAST VERSION.

ATTENTION

LA LOGIK 19 EST UN CONTROLE EQUIPMENT INDUSTRIEL (PAS UN INSTRUMENT DE SECURITE) POUR LE FONCTIONNEMENT D'UN COMPRESSEUR A VIS AVEC SOFTWARE DE CLASS A (voir EN 60730-1 et EN 60335-1).
L'INSTALLATION DOIT ETRE EFFECTUEE CONFORMEMENT AUX NORMES ET AUX REGLEMENTATIONS LOCALES ET INTERNATIONALES OU LE COMPRESSEUR EST FABRIQUE.
L'INSTALLATION ET MISE EN MARCHE DE LA COMMANDE DOIVENT ETRE EFFECTUEES PAR DU PERSONNEL QUALIFIÉ BIEN SAVOIR DANS CE MANUEL.
LE CONTROLEUR DOIT ETRE UTILISE DANS LA NORME ENVIRONNEMENT INDUSTRIEL ET IL NE PEUT PAS ETRE UTILISE DANS UN ENVIRONNEMENT DE RISQUE D'EXPLOSION ET MARITIME FINS MILITAIRES.
CE MANUEL POURRAIT ETRE SOUS RESERVE DE MODIFICATION; S'IL VOUS PLAIT CONTACTER LOGIKA CONTROL TECHNIQUE BUREAU EN CAS DE DOUTE SUR LA DERNIERE VERSION.

TECHNICAL FEATURES

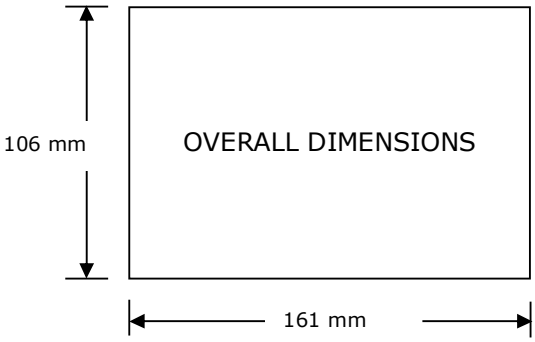
- Industrial control equipment for the operation and management of screw compressors only, pollution degree 2.
- In accordance to **EC** Directives:
  Directive:
  LVD : 2014/35/UE
  EMC: 2014/30/UE
  RHOS: 2011/65/EU
  based on the following harmonized standards applied:
  SAF-EMC: EN 60730-1
  RHOS: EN 50581
- In accordance to **UL 508 (FILE #: E316817)**.
- Black auto-extinguishing box in ABS:
  a) **according EC**: IP64 for the front panel and IP20 for the other parts;
  b) **according UL**: type 1 and Type 12 for front panel mounting , installation in pollution degree 2 for the other parts
- Inputs and outputs via terminal-block board to wires (250V, 10A, 12-24AWG) tightening torque 8 Nm.
- Working temperature: -10°C (14°F) ÷ 50°C (122°F) 90% RH (non condensing).
- Storage temperature: -20 (-4°F) ÷ 70°C (158°F).
- Power supply: 12Vac ± 10% 50÷60 Hz (power of the transformer's secondary: ~ 8 VA) from safety transformer
- Max. current absorbed = ~ 300mA
- Visualization through:
  custom back light LCD
  no. 2 led: yellow (maintenance timer expired) – red (alarm detected: warning = blinking – shut off alarm = switched on)
- no. 6 key buttons
- no. 1 input for temperature probe KTY/NTC
- no. 2 inputs 4/20mA for: working pressure transducer and aux. pressure transducer (settable)
- no. 3 digital inputs for connection to Logika Control phases unit
- no. 1 input for PTC or Klicson for motor protection
- no. 7 opto isolated digital inputs from 12/24Vac to detect:
  IN 0 = emergency stop button
  IN 1 = thermal motor
  IN 2 = thermal fan
  IN 3 = remote start/stop (settable)
  IN 4 = air filter pressure switch (settable)
  IN 5 = separator filter differential pressure switch (settable)
  IN 6 = settable
- no. 7 outputs via relay with contact 1.5A AC1 250Vac – 6 A AC1 250Vac total:
  RL1 = line contactor
  RL2 = delta contactor (settable)
  RL3 = star contactor
  RL4 = load solenoid valve
  RL5 = fan contactor (settable)
  RL6 = condensate drain solenoid valve (settable)
  RL7 = alarm (settable)
- no.1 output 4/20mA as reference to inverter frequency
- no. 1 serial port RS485 for Master/Slave or Multiunit operation
- Check min. and max. power supply to the controller.
- Non volatile memory to store setting data, working hours, compressor status, alarm list
- The controller switches OFF due to micro interruption longer than ~ 300ms

Weight: 430 gr

Accessories:
- nr. 1 temperature probe KTY 13.5 for detection of the air end temperature: cable in silicone rubber, length 2.5 m, working range –10 ÷ 130°C, resolution 1°C.
- nr. 1 pressure transducer 4-20 mA for working pressure control: 2 wires, AISI 316L stainless steel membrane, working range 0 ÷ 15 bar, resolution 0,1bar, precision ± 0,1bar.
- nr. 1 Logika Control phases unit for power supply 230 ÷ 460V three phase

MOUNTING

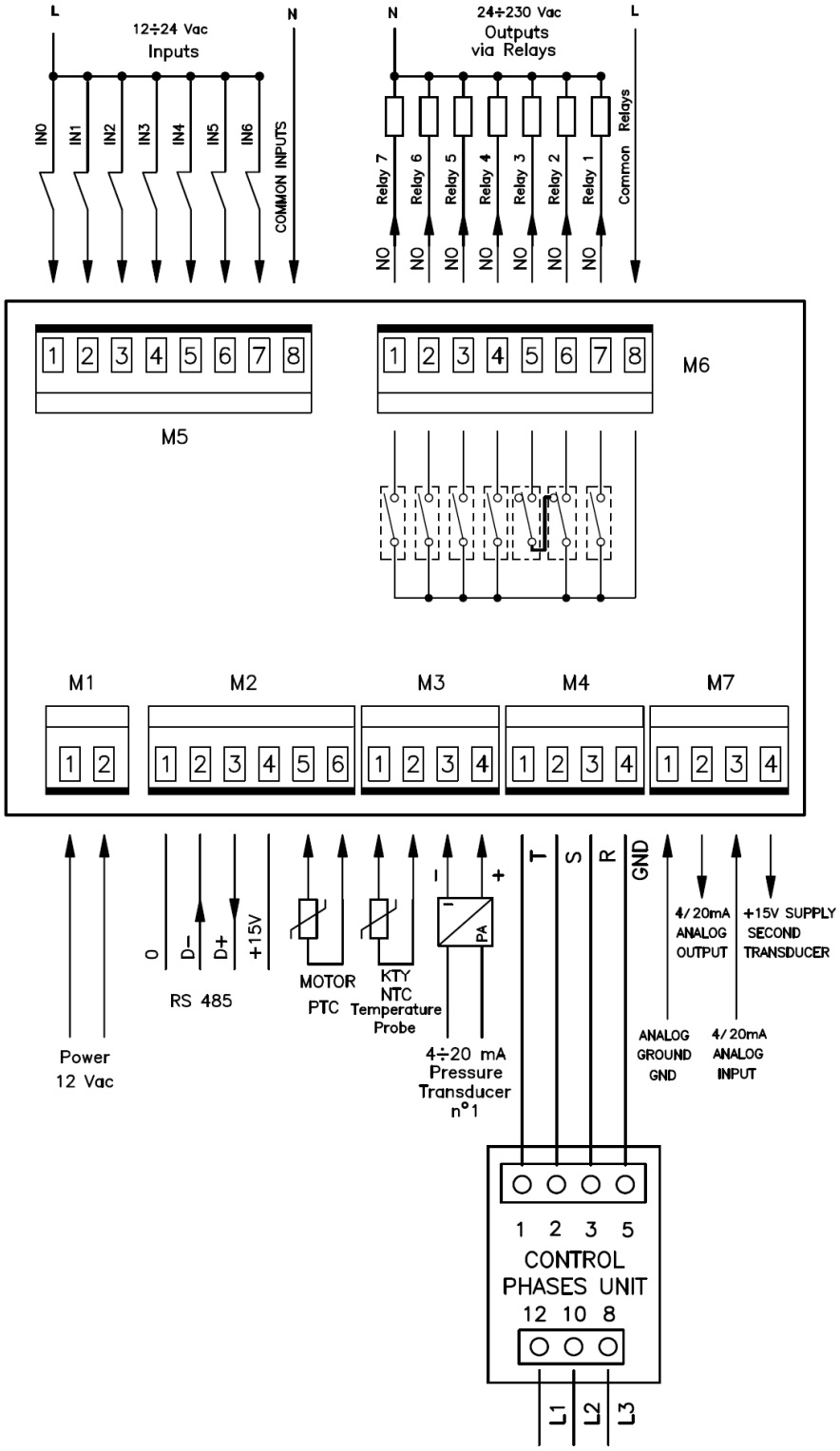
Use the drawing below as overall dimensions to mount the controller.



WARNING TO THE WIRING OF THE CONTROLLER

1) Respect the working technical features and instructions on the electrical wiring; in special way both the cables of the temperatures probes and pressure transducers must be isolated from the power cables and proper RC filters must be placed on the contactors' coils
2) On the back side of the controller there must be enough space for wiring and connectors.
3) The rear side of the controller must be protected against condensation, oil and dust.
4) Don't wash the front panel by water injection; clean the front mylar with a soft cloth using soap water.
5) Low voltage and high voltage cables run on separate trunks.
6) The connection cables of temperature probe and pressure transducer must be placed in a trunk separate from the power cables.
7) The connections cables of digital inputs must be placed in a trunk separate from the power cables.
8) The power cable of controller must NOT be placed in the same trunk of the power cables

ELECTRICAL DRAWING AND LEGEND OF THE CONNECTIONS



LEGEND

Terminal M1
Poles 1-2 = power supply 12Vac ±10% / 50-60Hz

Terminal M2
Pole 1 = 0 (RS485)
Pole 2 = RX (RS485)
Pole 3 = TX (RS485)
Pole 4 = +15V
Poles 5-6 = input PTC for motor protection
(Resistance of operation = 2.900 ohm – Resistance of restoration = 1.600 ohm)

Terminal M3
Poles 1-2 = air end temperature probe
Poles 3-4 = pressure transducer (pole 3 = negative - pole 4 = positive)

Terminal M4
Pole 1 = Pole 1 of the control phases unit (L3)
Pole 2 = Pole 2 of the control phases unit (L2)
Pole 3 = Pole 3 of the control phases unit (L1)
Pole 4 = Pole 5 of the control phases unit (GND)
NOTE: POLE 4 GND (GROUND) MUST NOT BE CONNECTED TO EARTH. IT'S THE REFERENCE VOLTAGE NEEDED FOR THE OPERATION OF THE CONTROL PHASES ONLY.

Terminal M5
Pole 1 = IN0 = emergency stop button (L)
Pole 2 = IN 1 = thermal motor (L)
Pole 3 = IN 2 = thermal fan (L)
Pole 4 = IN 3 = remote start/stop (settable) (L)
Pole 5 = IN 4 = air filter pressure switch (settable) (L)
Pole 6 = IN 5 = separator filter differential pressure switch (settable) (L)
Pole 7 = IN 6 = settable (L)
Pole 8 = common (N)
NOTE: the digital inputs you do not use have to be connected directly to 12-24V otherwise they generate the related alarm, except IN4 that must not be connected in case you do not use it.

Terminal M6
Pole 1 = RL7 = alarm (settable)
Pole 2 = RL6 = condensate drain solenoid valve (settable)
Pole 3 = RL5 = fan contactor (settable)
Pole 4 = RL4 = load solenoid valve
Pole 5 = RL3 = star contactor
Pole 6 = RL2 = delta contactor (settable)
Pole 7 = RL1 = line contactor
Pole 8 = common = 24 ÷ 230Vac

Terminal M7
Pole 1 = GND: connect to the related references
Pole 2 = analog output 4/20mA PID: connect to inverter analog 4/20mA set as frequency reference
Polo 3 = aux analog input 4/20mA settable as second pressure transducer or analogue data from drive (see menu 10= **menu** A ı); according the two cases the connections are:
1. second pressure transducer: connect to negaitve pole internal pressure transducer
2. inverter data: connect to an inverter analog output 4/20mA properly set for the data needed

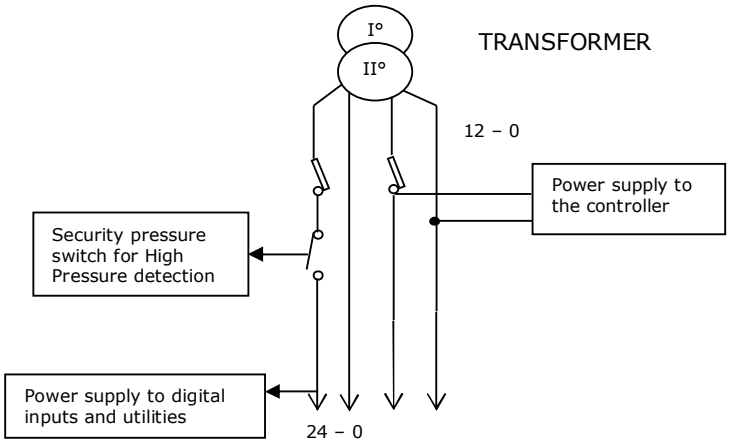
Polo 4 = power supply 15V for second pressure transducer: connect to the positive pole of the internal pressure transducer

EXAMPLE OF CONNECTION TO SECURITY PRESSURE SWITCH

Alarm related to security pressure switch **A26**, is joined to the lacking phase to all the digital inputs.
This is a shut off alarm: below you can find the connection drawing both to contactors 24Vac and/or 230Vac.

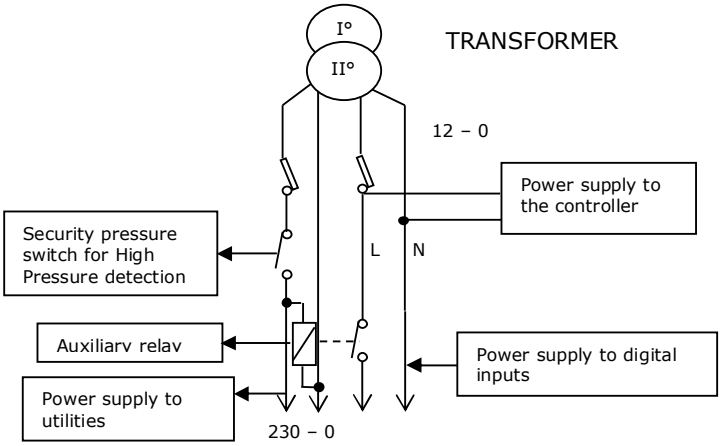
Contactors 24 Vac

If the operation of the contactors and soenoid valves come through 24 Vac, the digital inputs have to be connected to 24 Vac (*see drawing on the right*); on this way when the pressure switch opens due to high pressure, 24 Vac lacks and deenergize all the contactors, solenoid valve and digital: the controller detects all the digital inputs opened and signal the alarm **A09**.



Contactors 230 Vac

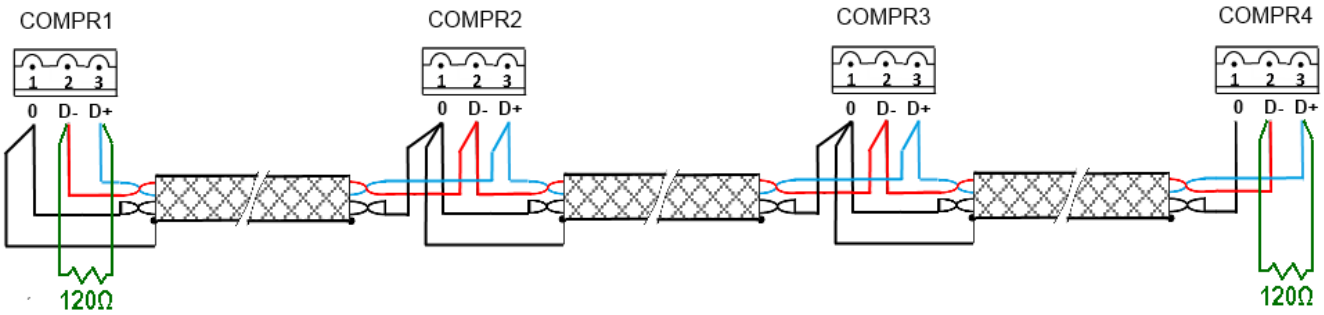
If the operation of the contactors and solenoid valves comes through 230 Vac, the digital inputs have to be connected to 12 Vac; next to the contact of the pressure switch, place and energize an auxiliary relay and put the contact in serie to 12 Vac (L) (*see drawing on the right*).
When the pressure switch is closed, the auxiliary relay with contact closed supply power to the digital inputs; the power supply of the controller is connected before the contact of the relay.
When the pressure switch opens, the auxiliary relay opens power to the digital inputs; the controller detects all the digital inputs opened and signal the alarm **A09**.



CONNECTION SERIAL NET RS485

To connect a serial net you have to pay carefully attention to some executive aspects:

1) Use flexible cable, shielded, twisted 22 AWG type.
2) Connect D- and D+ to two conductors of same couple and 0 to a third one (if available) or both conductors of a second couple.
3) Connect the cable's shield to only one end of 0.
4) DO NOT CONNECT the cable's shield to the electrical ground of the plant.
5) The net MUST NOT BE LONGER than 400 meters.
6) Max connectable units through serial net RS 485 is 32.
7) In case of connection via serial line RS485 you have to set the parameter **nc** into menu **06** **CnF** (compressor setting): this is the number you need to combine to the recognition of the controller.
8) The units on serial net RS485 must be connected without any reversal: pole D+ to D+, pole D- to D-, pole 0 to 0.
9) In case of connection with more than 2 units it is necessary to provide only one line without any deriving.
   At the terminal both starting and ending the net it is possible to place (in parallel to D- and D+) a termination resistance 120 Ohm.
   In the picture below you can see the connection of 4 units on serial net RS485 by using a shielded cable with two twisted couples.

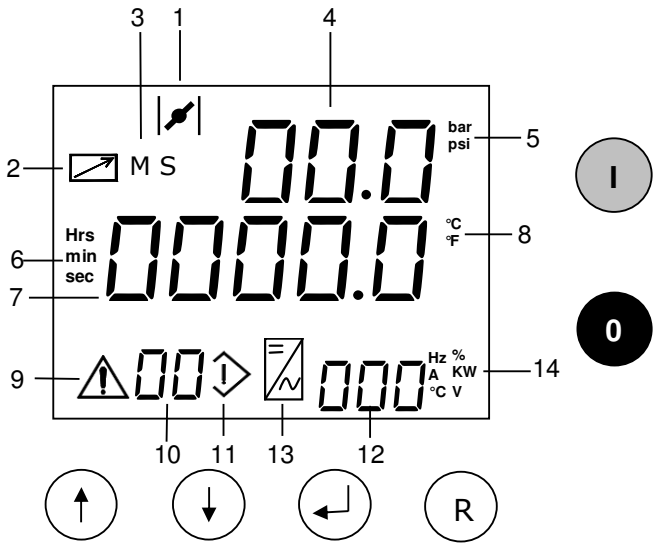


NOTE TO THE WIRING: wrong wiring can damage both the controller and other utilities connected on the serial net

WARNINGS TO THE WIRING RS485

1) The cable must be placed into a TRUNK SEPARATED by power cables and any potentially dangerous cables as lighting plant and so on.
2) DO NOT PLACE signal cables next to power bar, lighting lamps, antennas, transformers;
3) Keep signal cables FAR 2 METERS MINIMUM from units with heavy inductive (distribution cabinet, motors, inverter).
4) Don't pull the cables with a strength over 12 Kg; stronger strength can damage the wires and reduce the signal transmission on the line.
5) DO NOT: twist, knot, crush or fray the conductors.
6) Do not make any joints between lengths of cable: always use only one cable to connect any single unit to each others. Strip the end part carefully, do not crush the cable next to core-hitches or safety supports.
7) Always respect the position of the colors at the both sides of the connection.
8) Once the wiring is complete, visually and physically check the cables are undamaged and properly placed.

CONTROL PANEL



MEANING OF ICONS

1 Compressor loading (icon lightened) – compressor unloading (icon blinking).

2 Remote start - stop enabled.

3 Compressor working into Master/Slave operation, Multiunit or managed by Logik200.

4 Working pressure detected (in the main visualization) or name of the parameter (into the different menu)

5 Unit of the pressure detected (in the main visualization).

6 Unit of timer and counter (into the proper menu).

7 Compressor status or temperature detected (in the main visualization) or value of the parameters (into the different menu).

8 Unit of the temperature (in the main visualization).

9 Alarm detected (in the main visualization).

10 Code of the alarm detected (in the main visualization) or number of the menu (into the menu).

11 Icon indicating you're into the menu.

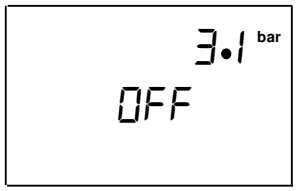
12 Working frequency set by inverter PID through output 4/20mA (parameter A10<2) or data read from inverter through aux input 4.20mA (parameter A10=2..7). On the first case the display visualizes the PID frequency making reference to the minimum and max frequency parameters Fr0 (output=4mA) and Fr1 (ouput=20mA) set on menu Ao; on the second case the display visualizes the data read by the second input 4/20mA using as top range joined to 20mA the parameter A15 set on menu A1.

13 Icon indicating connection to inverter (icon): the group on the right (point 12) and the unit of measurement (point 14) are visualized in case PID is enabled (parameter A0D set1 or 2.

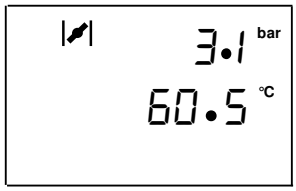
14 Unit of measurement of the data on the 3 digit group on the left.

DESCRIPTION OF THE VISUALIZATIONS

1) Power ON to the controller and the l' LCD visualizes the following:



2) From **OFF** goes to **RUN** by pushing the button (I) the LCD visualizes the following:



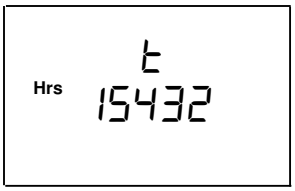
3) The possible compressor status are the followings:

Status	Visualization	Icon
Waiting for starting (timer t5)	On blinking	
Compressor starting	Visualization of pressure	
Compressor loading	Visualization of pressure – temperature	lightened
Compressor unloading for set pressure reached	Visualization of pressure – temperature	blinking
Compressor in set	SEt Visualization of the pressure	
Compressor going to stop (unload running)	OFF blinking	if remote start/stop opened
Compressor off	OFF Visualization of the pressure	if remote start/stop opened
Compressor shut off for alarm	StoP + alarm code	⚠

USER FUNCTIONS

From the main visualization, pushing the button ▲ the LCD visualizes in sequence: working hours, starts/hour and software release.

Pushing ▲ the LCD visualizes the following:



the total working hours of the compressor.

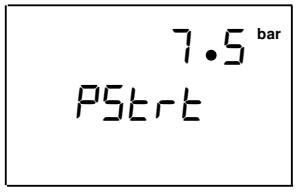
Pushing ▲ and/or ▼ you flow up/down the values and by R it back to the previous menu.

In sequence: **tH** (total working hours), **LH** (load hours), **CAF** (change air filter timer), **COF** (change oil filter timer), **CSF** (change separator filter timer), **OIL** (change oil timer), **C-h** (check compressor) **b-L** (lubricate bearings timer), **S-h** (starts/hour), **rEL** (software release) and related value.

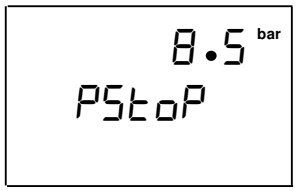
Till on the main visualization, by pushing ▼ flow the menu down; enter to the menu and to the modification of the parameters according the password levels reported in the chapter of every single menu.

In the main visualization, pushing ↵ the modification of the Start and Stop pressures is enabled.

Pushing ↵ once, the LCD visualizes the following:



with the value of the start pressure blinking; by the button ▲ and/or ▼ change the value and confirm it by ↵ ; the LCD shift to the modification of the Stop pressure, visualizing the following:



with the value of the Stop pressure blinking.

Follow the same procedure used to change the Start pressure and confirm by ↵ .

Once the data has been confirmed, the LCD shift back to the main visualization.

The button R resets the alarm visualized on the LCD further to quit the menu during the programming.

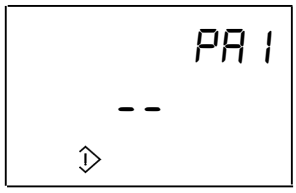
In every step the following buttons are always active:

Button I = compressor start

Button 0 = compressor stop

ENTER THE PASSWORD

On the main visualization by pushing ▼ and ▲ together it's possible to enter the password for the programming of the parameters; the LCD visualizes the following:



By the buttons ▲ and/or ▼ select the password level you need to enter (**PA 1** ÷ **PA3**) and confirm by the button ↵ : according the password level you need to enter, the LCD visualizes the number of digits as per the figures to enter with the first digit blinking:

- selecting **PA 1** = nr. 2 digits (default password 22)
- selecting **PA2** = nr. 3 digits (default password 333)
- selecting **PA3** = nr. 4 digits (default password 4444)

NOTE: without password, menu and parameters are visible at level 0 only.

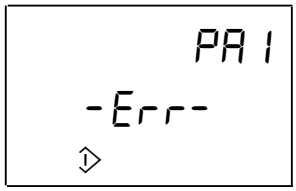
Pushing the button R shift back the previous visualization.

Once the password level has been confirmed, enter the first digit by the button ▲ and/or ▼ and confirm it by ↵ ; the next digit starts blinking.

Enter the next digits following the same procedure used for the first one.

When you enter the number, the button R is used to shift back to the previous digit, in case it's wrong.

Confirming the last digit the password is accepted and you can enter to program the menu and parameters according the level selected; in case the you enter a wrong password the LCD visualizes the following:



The message **-Err-** blinks for 3 seconds to indicate the password is wrong and then the LCD shift back to the main visualization.

PASSWORD MISSED

In case you've missed or forgotten the password number, it's possible to restore the password default (<u>on all 3 levels</u>) according the following procedure:

take power off, in case the controller is powered; supply power again and keep on pushing the button ↵ for 5 seconds.

The message **rESEt** blinks on the LCD to indicate the restoring of the password default is in progress.

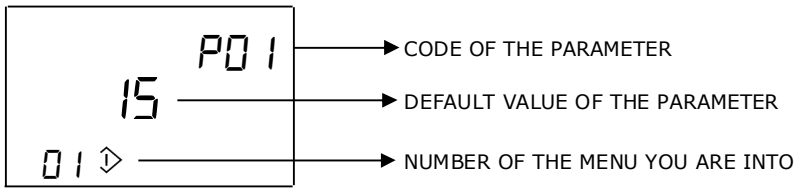
SETTING PARAMETERS

When the compressor is OFF, once the password has been entered correctly, in the main visualization by pushing enter to the main menu and the LCD visualizes the following:

PP (Pressures) indicates the first menu and 01 its own number into the main menu.

When you are into the menu flow, the icon with proper number of the menu are always visualized on the LCD.

- By the buttons and/or low the menu up/down.
- By the button confirm the menu you need to enter and the LCD visualizes as follow:



- By the buttons and/or select the code of the parameter you need to change or by pushing (R) shift back to the main menu; pushing n the last parameter, the LCD shift back to the menu you enter.
- By the button confirm the parameter selected; the setting value starts blinking to indicate the change is enabled.
- By the buttons and/or hange the value and confirm it by
- Pushing (R) shift back to the selection of the parameters without any change.

MENU FLOW

MENU	Display	Password
01-Password	PAS	1
02-Pressures	PP	0
03-Temperatures	PH	1
04-Working timer	Pt	1
05-Maintenance timer	P-F	1
06-Compressor configuration	CnF	1
07-Working hours	HrS	0
08-Alarms	AL	0
09-Reset	rES	1
10-Aux. analog input 4/20mA	A1	2
11-Output 4/20mA	Ao	2

NOTE

After the visualization of the last menu, the controller quit the setting automatically and the compressor is OFF; after 120 seconds the password level is missed.

For safety reasons, after 120 seconds from the last pushing of any button, the controller quit the setting automatically, loading the parameters changed.

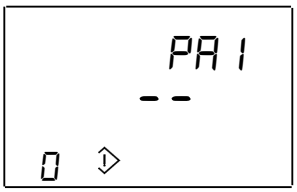
ANTIPANIC FUNCTION: in every step of the setting , pushing the button for 5 seconds, the LCD shift back to the main visualization.

MENU 01 PAS = CHANGE PASSWORD

In this menu you can change the password code related to three password levels available.

Passwords are: **PA1** (Service 1) – **PA2** (Service 2) – **PA3** (factory).

To enter the menu push ⏎ and the display visualizes the following:



You can select the password level to change by using ▲ and/or ▼ then push ⏎ to enable the modification; in case you push (R) you shift back to previous menu.

Once you enalbe the modification the first digits blinks so you can change it by using ▲ and/or ▼ ; confirm the digit by ⏎ and the second one starts blinking to modification: follow the same procedure for all next digits.

Once the last digit has been confirmed, the new password code has been loaded.

NOTE: during the modification procedure, in case of error the button (R) allows to shift back to the previous digit.

MENU 02 PP = PRESSURES

Parameters pertinent to the pressures.

Parameter	Description	Setting values	Password	Default
P01	Top range transducer	15 - 60	3	15 bar
P02	High pressure alarm	(P03+0,5) ÷ (P01-0,5)	2	11,0 bar
P03	Stop pressure	(P04+0,2) ÷ (P02-0,5)	0	10,0 bar
P04	Start pressure	3 ÷ (P03-0,2)	0	8,5 bar
P05	Start pressure slave	2,8 ÷ (P04-0.2)	0	8,3 bar
P06	Offset pressure transducer	-2,0 ÷ +2,0	2	0 bar
P07	Unit of measure to pressure	0 (bAr) – 1 (PSI)	0	0

NOTE: the parameter **P05** is visualized if the parameter **con** into the menu **ConF** (compressor configuration) has been selected **1** or **2** (Master/Slave operation).
After the last parameter, the LCD shift back to the message **PP**.

MENU 03 PH = TEMPERATURES

Parameters pertinent to the temperatures.

Parameter	Description	Setting values	Password	Default
H00	Enabling temperature probe	0 (disabled) 1 (KTY) - 2 (NTC) 3(PT1000)	1	3
H01	High air end temperature alarm	(H02+2°) ÷ 125	3	110 °C
H02	High air end temperature warning	(H03+2°) ÷ (H01-2°C)	3	105 °C
H03	Temperature Start fan	30 ÷ (H02-2°)	2	70 °C
H04	ΔT. Stop fan	2 ÷ 20°C	2	10 °C
H05	Low air end temperature alarm	-10 ÷ +15	2	0 °C
H06	Temperatura enabling PID	-10 ÷ +100 °C	3	-10 °C
H07	Offset temperature probe	-5 ÷ +5 °C	3	0 °C
H08	Unit of measure to temperature probe	0 (°C) – 1 (°F)	0	0

NOTE: in case you enable the frequency inverter control (A00=1), the parameter **H06** determines the temperature while compressor is loading; over this setting PID is enabled. Below temperature **H06**, inverter keeps on running at minimum frequency. After the last parameter, the LCD shift back to the message **PH**.

MENU 04 Pt = WORKING TIMER

Parameter	Description	Setting values	Password	Default
t01	Star timer	2 ÷ 20 sec	2 sec	3
t02	Star-Delta timer	10 ÷ 50 ms	20 ms	3
t03	Delta timer (delta unloading)	1 ÷ 900 sec	2 sec	3
t04	Unload timer	0 ÷ 10 min	4 min	2
t05	Safety timer	1 ÷ 240 sec	60 sec	3
t06	Condensate drain On	1 ÷ 10 sec	2 sec	1
t07	Condensate drain Off	1 ÷ 10 min	3 min	1
t08	Delay separator filter alarm	1 ÷ 600	30	2
t09	Master/Slave switch	0 ÷ 200h	100 h	2
t 10	Slave operating time	1 ÷ 99min	5 min	2
t 11	t04 fixed – variable	0 (fixed) – 1 (variable)	0	1

NOTE:
t05: it is the minimum time has to pass between compressor stops and next re-start.
t08: it is the time the condition of pressure drop related to the filter separator has to persist before detecting the corresponding alarm.
This parameter is activated only if the aux. input 4/20mA is set as internal pressure transducer (A 10=1).
Max delta pressures (internal pressure – working pressure) are set on parameters A 12 and A 13.
t09 and t 10 are visualized only if the parameter con in menu 8 CnF (Compressor configuration) is set **1** or **2** (Master/Slave operation).
t09 set as 0 disables Master/Slave switch.
If you change the setting value, the new values is uploaded when the counting in progress is over.
t 11: it is possible to set fixed or variable unload time.
Fixed: when the pressure reaches set P03 (stop) timer t04 starts counting; when the timer is over if the pressure is still over set P04 (start) the compressor stops; on the other hand if during the counting the pressure goes down set P04, the compressors shift to loading again and timer t04 reset.
Variable: the starting the compressor runs the unload fixed cycle above; on the next unload cycle the controller keeps the time that the pressure takes going down from set P03 to set P04: if this time (called **tx**), is lower than t04, on the next unload cycle t04 will be shorter (1 minute less) and so on up to a minimum time of 2 minutes.
As soon as **tx** is shorter than t04 modified, the setting value t04 is uploaded again as stop timer.

After the last parameter, the LCD shift back to the message PH.

MENU 05 P-F = MAINTENANCE TIMER

This menu allows to set time for the maintenance to the compressor.

Parameter	Description	Setting values	Default	Livello Pin
CAF	Change air filter	100÷3000	1-2-3	2.000 h
COF	Change oil filter	100÷10000	1-2-3	2.000 h
CSF	Change separator filter	100÷10000	1-2-3	4.000 h
C--	Change oil	100÷10000	1-2-3	8.000 h
C-h	Check compressor	100÷10000	1-2-3	500 h
b-L	Bearings lubrication	100 ÷29.999	29.999	1

NOTE
The counting is pertinent to the ON time of the line contactor (RL1) and it comes backwards; when the counting reaches **0**, the LCD visualizes the proper alarm and the timer goes on as negative counting; the storage of the working hours comes every 15 minutes; if during the counting the power is off, the part of 15 minutes is lost.
If the parameter C-h is set as 10.000 hours, the proper alarm will not be generated.
If the parameter b-L is set as 29.999 hours, the proper alarm will not be generated
By changing the set value the residual time is recalculated.
Example: CAF, set 2000h, the counter is 1600, it means 400h has passed from reset. If yu change the set, for example 3000, the counter will change into 2600.

MENU 06 CnF = COMPRESSOR CONFIGURATION

Parameters	Description	Setting values	Default	Password
L-P	Low voltage	0 (lacking voltage only) – 1 (voltage checking)	1	1
S--	Security	0 (no) – 1 (yes)	0	2
r--	Restart	0 (manual) – 1 (automatic)	0	1
FAS	Logika control phases	0 (no) – 1 (yes)	1	1
PtC	Input PTC	0 (disabled) – 1 (enabled)	0	2
nc	Modbus address	0 ÷ 32	1	2
S-h	Starts/hour	0 ÷ 60	6	2
con	Connection	0 (Stand alone) – 1 (Master/Slave) 2 (Multiunit)	0	2
FAd	Air flow	100 ÷ 10000 l/min.	1000	0
In3	Input In3	0 (Phases sequence relay) 1 (separator filter pressure switch) 2 (air filter pressure switch) – 3 (door open) 4 (Alarm) – 5 (inverter failure) 6 (remote start/stop) – 7 (remote load/unload) 8 (disabled)	6	3
In4	Input In4	0 (Phases sequence relay) 1 (separator filter pressure switch) 2 (air filter pressure switch) – 3 (door open) 4 (Alarm) – 5 (inverter failure) 6 (remote start/stop) – 7 (remote load/unload) 8 (disabled)	2	3
In5	Input In5	0 (Phases sequence relay) 1 (separator filter pressure switch) 2 (air filter pressure switch) – 3 (door open) 4 (Alarm) – 5 (inverter failure) 6 (remote start/stop) – 7 (remote load/unload) 8 (disabled)	1	3
In6	Input In6	0 (Phases sequence relay) 1 (separator filter pressure switch) 2 (air filter pressure switch) – 3 (door open) 4 (Alarm) – 5 (inverter failure) 6 (remote start/stop) – 7 (remote load/unload) 8 (disabled)	8	3
rL2	Output RL2	0 (delta contactor) – 1 (alarm) 2 (fan contactor) 3 (drain solenoid valve) – 4 (ON) 5 (Motor) – 6 (JOG)	0	3
rL5	Output RL5	0 (delta contactor) – 1 (alarm) 2 (fan contactor) 3 (drain solenoid valve) – 4 (ON) 5 (Motor) – 6 (JOG)	2	3
rL6	Output RL6	0 (delta contactor) – 1 (alarm) 2 (fan contactor) 3 (drain solenoid valve) – 4 (ON) 5 (Motor) – 6 (JOG)	3	3
rL7	Output RL7	0 (delta contactor) – 1 (alarm) 2 (fan contactor) 3 (drain solenoid valve) – 4 (ON) 5 (Motor) – 6 (JOG)	1	3
OFL	Multiunit operation	0 (Compressor available) – 1 (Compressor offline)	0	1

NOTE:

L-P / r--:

Selecting L-P = 0 when the power supply goes down 9.0Vac the controller switches off; once the power goes up 10.5Vac the display visualizes the alarm code A07 and with parameter r-- = 0 the compressor keeps off and you have to restart it manually; with parameter r-- = 1 the compressor restart automatically once timer tOS is over.

con: if you leave default value 1 and you have not enabled both Master/Slave and Multiunit operation, the compressor works on standing alone.

rL2,rL5, rL6, rL7:
setting 4=ON, the relay is activated while the compressori s enabled (ON button pushed);
setting 5=Motor, the relay is activated while the electric motor is activated;
setting 6=JOG, the relay is activated while the inverter motor is kept on minimum frequency.
ATTENTION: output voltage, if you need to use free output use external relay

OFL: during Multiunit operation it is possible to exclude the compressor by setting the value 1 (offline).

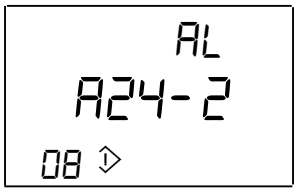
After the last parameter, the LCD shift back to the message **ConF**.

MENU 07 HrS = WORKING HOURS

LCD visualizes the name of the data: **tH**, **LH**, **CAF**, **COF**, **CSF**, **OIL**, **C-h**, **b-L**, **S-h**, **rEL** and related value:
working hours, load hours, change air filter timer, change oil filter timer, change separator filter timer, change oil timer, general check, lubricate bearings timer, starts/hour and software release.
By the buttons ▲ and/or ▼ flow the values up/down and by (R) ft back to the previous menu.
NOTE: it is possible to change both "Total hours" and "Load hours" if password level 3 has been enabled.
Pushing ↵ the first figure starts blinking to be modified; by ▲ and/or ▼ select the new figure and confirm it by ↵ and going to the next figures to set according the same procedure.
Confirming the last figure, the new value will be loaded into the memory.
During the setting, in case you need to come back to the previous character, push the button .

MENU 08 AL = ALARMS

Visualization of the last 20 alarms code detected; the 21st erases the 1st and so on.
The LCD visualizes the following:



A24-2 indicates the alarm code detected (make reference to alarm list page 21 and 22 of the manual) followed by the times the alarm has been detected (in the example alarm 24, power fault, has been 2 times detected).

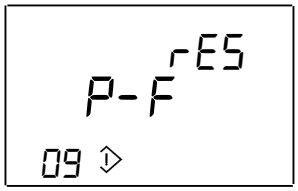
By the button ▲ and/or ▼ flow the alarm list up/down; by the button (R) shift back to the previous menu.
In case there is no alarm stored, the LCD visualizes the message "----".

MENU 09 rES = RESET

In this menu it is possible to make the following reset:

P-F = maintenance timer (password level = 1-2-3)
A-L = alarm list (password level = 1-2-3)
t-h = working hours (password level = 3)
G-G = general reset and load of the default values (password level = 3)

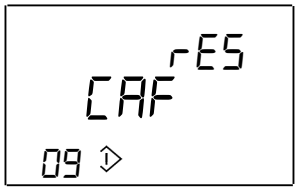
Enter into the menu by the button ⏎ and the LCD visualizes the following:



By the button ▲ and/or ▼ select the reset; by the button R ft back to the previous menu.

Start reset by pushing the button ⏎ for 3 seconds: the message rESEt blinks for few seconds to indicate the reset is in progress.

In case of selection and confirmation of the parameter P-F (maintenance timer), the LCD visualizes the following:



pushing ▲ and/or ▼ flows the maintenance timer up/down to make possible the reset of each single timer.

Start the reset as explained above.

By pushong the button enter, the display visualizes the value of the hourcounter.

Pushing R shift back to the previous menu.

NOTE: general reset is allowed **<u>when compressor is OFF only</u>**.

MENU 10 A1 = AUX ANALOG INPUT 4/20mA

This menu allows to set and visualize the parameters related to the aux. transducer.

Parameters	Description	Setting values	Default	Password
A10	Aux input 4-20mA	0 (Disabled) 1 (Internal pressure) 2 (Inverter frequency) 3 (% inverter) 4 (Inverter current) 5 (Inverter power) 6 (Inverter temperature) 7 (Inverter voltage)	0	2
A11	Top range pressure transducer	15 ÷ 60 bar	15	2
A12	Alarm aux. pressure	(A13+0.1) ÷ (A11-0.1) bar	2.4	2
A13	Warning aux. pressure	0 ÷ (A12 -0.1) bar	1.2	2
A14	Offset aux. Pressure	-1.0 ÷ +1.0 bar	0	2
A15	Generic top range	10 ÷ 999	15	2

NOTE:

If you set the parameter A10 = 1 you enable the management of the internal pressure joined to the aux. input 4/20mA.

In this case the parameters A11 ÷ A14 are visualized to set top range internal pressure transducer and differential thresholds (internal pressure – working pressure) related to the shut off alarm and warning from the separator filter, respectively A23 and A32.

Further to above alarms you enable also the alarm related to internal pressure transducer failure A30.

Finally when the motor stops and the internal pressure transducer is enabled, to allow the motor starting the following condition must be respected: Internal pressure < 2.0 bar.

In case the above condition is not satisfied, the display visualizes the blinking message P-in further the internal pressure and related icon P2 instead of the working one.

On the main visualization you can visualize the internal pressure in any time by pushing the button ®

By setting the parameter A10 = 2 ÷ 7 you can join the aux. input 4/20mA to a measure coming from inverter.

The controller does not manage any alarm, it just read a data to visualize in the group lower right side of the main visualization and the related icon is activated.

Further to parameter A10 you can only see A15 allowing to set the top range joined to 4..20mA.

According the value set on A10 the 3 digit icon on the right side visualizing the data from inverter can be:

2. Hz
3. %
4. A
5. kW
6. °C
7. V

Example: if the inverter is set to provide a value proportional to the power on the analog input of Logik19 and the nominal power is 100kW, you set A10=5 and A15=100.

MENU 11 Ao = OUTPUT 4/20mA

This menu allows to activate the analog output 4/20mA and set/visualize the parameters related to PID control.

In this case the analog output is the reference to the inverter frequency.

You can select two ways (setting parameter A00):

1. Air end motor inverter control
2. Fan motor inverter control

Parameters	Description	Setting values	Default		Password
			A00=1	A00=2	
A00	Output 4-20mA	0 (Disabled) 1 (Air end frequency) 2 (Fan frequency)	0		2
Ao 1	Proportional constant PID [0.01]	0 ÷ 9999	250	500	2
Ao2	Integral constant PID [0.01]	0 ÷ 9999	1000	1500	2
Ao3	Derivative constant PID [0.01]	0 ÷ 9999	0	1	2
Ao4	Multiplier output PID [0.01]	0 ÷ 9999	100	400	2
Ao5	Multiplier Feedback [0.01]	-9999 ÷ 9999	0	160	2
Ao6	Output Negative Offset [0.01]	-200 ÷ 200	0	76	2
Ao7	Output lower limit PID [0.01]	-200 ÷ 100	0	-100	2
Ao8	Multiplier to Ao2 over set-point [0.01]	1 ÷ 999	100	100	2
Fr0	Min. frequency [Hz]	0Hz ÷ Fr 1-5Hz	25Hz	25Hz	2
Fr 1	Max. frequency [Hz]	Fr0+5Hz ÷ 500Hz	50Hz	50Hz	2
rP 1	Time ramp ascent [0.1s]	0,1s ÷ 99,9s	5,0s	5,0s	2
rP2	Ramp down-time [0.1s]	0,1s ÷ 99,9s	5,0s	5,0s	2
rP3	Time ramp transition to min. frequency (JOG) [0.1s]	0,1s ÷ 99,9s	5,0s	5,0s	2

NOTE:

Two different default values are available according the size adjusted (determined by the parameter A00).
These set are uploaded once you change the parameter A00.
Regarding the parameters Ao 1 and Ao8 the values used in the PID calculation are divided per 100 respect to the ones used by Logik19 in menu Ao (or default visualized 1000 for the integral time correspond to the value 10.00s used in the PID calculation).

Regarding parameters rP 1 ÷ rP3 the values used in the PID calculation are divided per 10 respect to the ones used by Logik19 in menu Ao (or default visualized 50 for the acceleration ramp correspond to the value 0.5s).

Parameter Ao8 allows to differentiate the integral action depending the feedback is lower or over set-point.
In case of feedback lower than set-point, the integral time used is Ao2 while feedback over set-point, the integral time used is Ao2*Ao8.
Con Ao8=100 (ovvero 1.00) non vi è differenziazione nelle due azioni.

If you set the output to air end motor inverter control, the star-delta operation is disabled and you can set a different operation to the relay RL2 (parameter rL2 menu compressor configuration) while relay RL3 keeps on disabled.

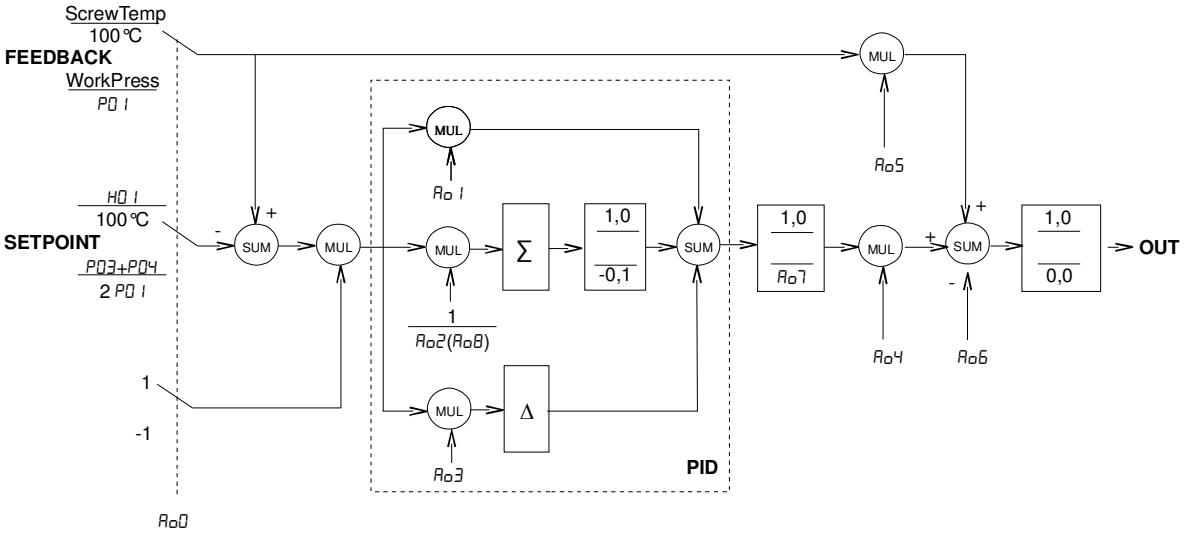
PID output, limited to interval 0..1, is transposed to an output current: output 0 = 4mA while output 1 = 20mA.
It is necessary you set the frequency reference on the inverter so the frequency range you need correspond to the input range 4mA/20mA.
This range must be set also on the parameters Fr0 and Fr 1.

According the setting on parameter A00 PID receive respectively input:

1. set-point = intermediate value between start and stop pressure (P03+P04)/2, feedback = working pressure
2. set-point = temperature fan start H03, feedback = air end temperature

On the first case: reference and present value are related to the top range transducer, on the second case they make reference to the fixed value 100°C.

The picture below explains the PID calculation.



ALARMS CODES

SHUT OFF ALARMS

Code	Description	Cause
A01	NO PHASE	Lacking one or more phase over 300 m.s.
A02	HIGH AIR END TEMPERATURE	Air end temperature over set H01
A04	LOW AIR END TEMPERATURE	Air end temperature probe lower than set H05
A05	TEMP. PROBE FAILURE	Air end temperature probe failure
A07	LOW VOLTAGE	Power supply to the controller lower than 9,5Vac; reset accepted when voltage overcomes 10,6Vac
A10	HIGH PRESSURE	Working pressure over set P02
A11	PRESSURE TRANSDUCER FAILURE	Working pressure transducer failure
A12	EMERGENCY STOP	Emergency stop button opened (IN0)
A13	MOTOR OVERLOAD	Thermal motor open (IN1)
A14	FAN OVERLOAD	Thermal fan open (IN2)
A15	INPUT OPEN	IN3, IN4, IN5, IN6 set as alarm detection
A18	SECURITY	Timer CAF over; alarm detected if parameter S-- is enabled and set 1
33	FIELD BASS ERROR	Watchdog activated by MODBUS and no communication more than 5 seconds
A20	WRONG PHASE	Phases inverted
A21	DOOR OPEN	I n4, I n5 o I n6 set as door micro-switch open
A22	INVERTER FAILURE	I n4, I n5 o I n6 set as drive fault open
A23	SEPARATOR FILTER	I n4, I n5 o I n6 set as SEPARATOE FILTER closed or Aux input 4/20mA set as pressure transducer and the following condition persists for the time t08: compressor loading, air end temperature > 45°C and the pressure is higher than A12
A24	POWER FAULT	In case of power off and compressor set as manual restart
A25	PTC MOTOR	Input PTC open (resistance intervention 2,9 Kohm, release 1,65 kOhm)
A26	INPUT POWER FAULT	All digital inputs IN1 ÷ IN6 open
A30	AUX. TRANSDUCER FAILURE	Aux input 4/20mA set as pressure transducer: current outside range 4..20mA

WARNINGS (VISUAL ALARMS)

Code	Description	Cause
A00	SETTING DATA FAILURE	Default data loaded
A03	WARNING HIGH TEMPERATURE	Air end temperature over set H02
A06	TEMPERATURE PROBE DISABLED	Parameter H00 set 0
A08*	MAX. STARTS/HOUR	Starts/hour over set S-h
A16	MULTIUNIT FAILURE	No communication to Master
A17	MASTER/SLAVE FAILURE	No communication via serial line among the compressors
A31	AIR FILTER	I n5 closed if it is set as air filter pressure switch
A32	WARNING SEPARATOR	Aux input 4/20mA set as pressure transducer and the following condition persists for the time t08: compressor loading, air end temperature > 45°C and the pressure is higher than A13
A33	WARNING LOW VOLTAGE	Power supply to the controller lower than 11,6Vac; automatic reset while voltage overcomes 12Vac
A34	HIGH VOLTAGE	Power supply to the controller over 14.5Vac

08* **Max. Starts/hours** means the compressor is not going to stop: it keeps on running load/unload (according the pressure) until 1 hour time from the first start took place in the same hour.

NOTE:

1) When a warning is detected, any relay set as alarm (RL2/RL5/RL6/RL7) is energized intermittently.

2) When the display visualizes the alarm message (in case of manual reset), by pushing the button you can reset the message: the alarm relay switches off and the alarm is stored into the alarm list.

MESSAGES VISUALIZED IN ALARM LIST ONLY

Code	Meaning	Cause
A35	MANUAL RESTART	Restart set from automatic into manual
A36	AUTOMATIC RESTART	Restart set from manual into automatic

MAINTENANCE MESSAGES

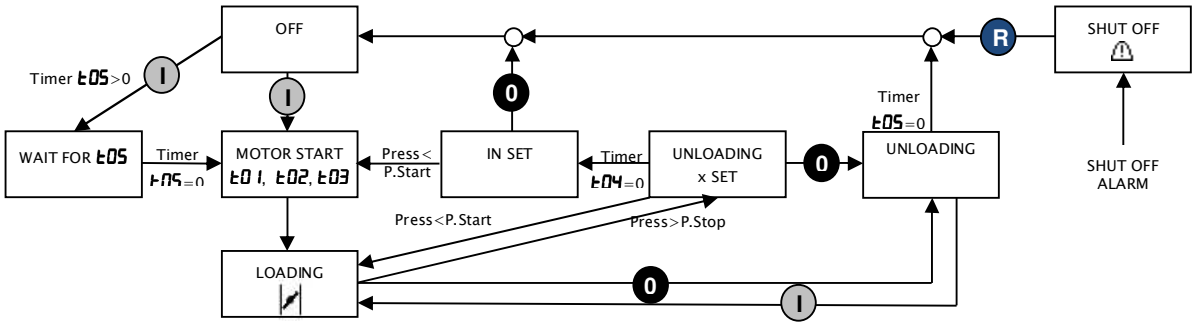
Code	Meaning	Cause
A37	CHANGE AIR FILTER	Counter of the timer set into menu P-F parameter CAF elapsed
A38	CHANGE OIL FILTER	Counter of the timer set into menu P-F parameter COF elapsed
A39	CHANGE SEP. FILTER	Counter of the timer set into menu P-F parameter CSF elapsed
A40	CHANGE OIL	Counter of the timer set into menu P-F parameter C-- elapsed
A41	CHECK COMPRESSOR	Counter of the timer set into menu P-F parameter C-h elapsed
A42	BEARING LUBRICATION	Counter of the timer set into menu P-F parameter b-L elapsed

NOTE:

1. In case of warnings the eventual relay set as output alarm (RL2/RL5/RL6/RL7) is intermittently energized.
2. When alarm message is visualized on LCD (in case of manual reset), by pushing ⏎ you can reset the message: the eventual alarm relay is de-energized and the alarmi s stored into the alarm list. .
3. In case of maintenance message, after you carried the maintenance don't forget to reset the proper timer into menu ***P-F***; if you don't act it, every 50 working hours or every next power on to the compressor LCD keep on visualizing the maintenance message.

HOW LOGIK 19 CONTROLS THE COMPRESSOR

Status diagram of compressor management



The symbols into each block indicates the compressor status on the main visualization of the display.
Background grey indicates the symbol is blinking.

Motor starts

Motor starts according the following procedure:
Line contactor and star contactor are activated for the timer Wt1.
The star contactor deactivates and pause for the timer Wt2.
Delta contactor activates.
Waiting for time Wt3 and then RL$ switches on by activating the load solenoid valve.

Safety timer t05

Pushing the stop button (0) the compressor stops according the following procedures:

a) if the compressor is running load, changes into unload running for the time set on t05; during this time the restart is accepted by the button (I); once the timer t05 is elapsed, the compressor stops and the LCD visualizes the message OFF;

b) if the compressor is running unload and the timer t04 is higher than t05, once t04 is elapsed, the compressor stops and the LCD visualizes the message OFF; if the timer t04 is lower than t05, t05 starts counting and when it's over, the compressor stops and the LCD visualizes the message OFF;

c) if the compressor is OFF due to pressure set reached, it stops and the LCD visualizes the message OFF;

d) when the compressor stops and the message OFF is visualized, the timer t05 starts; during this time if the start button (I) is pushed, the message OFF starts blinking and the compressor will not start till the timer t05 will be elapsed.

In case the compressor stops due to an alarm, the timer t05 starts; during this time if the alarm message is reset and the button (I) is pushed, the message OFF starts blinking and the compressor will start when the timer t05 is elapsed only.

Even when the controller is powered (or re-powered after black out) timer t05 starts.

Operation of the load solenoid valve (RL4)

1) t04 set as fixed time = 0

When the pressure reaches the stop pressure, RL4 turns off, the LCD visualizes the pressure and the timer t04 starts; when the timer is over, if the pressure is not below the start set, the compressor stops; when the timer is in progress, if the pressure goes down the start set, the load solenoid valve turns on and the LCD visualizes the pressure while the timer t04 erases.

2) t04 set as variable time = 1

On the first start the compressor works as point 1; on the next cycle the controller counts the time the pressure spend to decrease from stop to start set; if this time (**tx**) is higher than the set on t04, the next unload run t04 will be reduced of 1 minute and so on up to a minimum time of 2 minutes.

Nel momento in cui **tx** diventa minore di t04 variato, il ciclo di vuoto successivo tornerà ad essere conteggiato come il tempo impostato su t04.

ATTENTION: on the contact of the relay operating the load solenoid valve is mounted an RC Filter (22 ηF + 100Ω) sized for power of 4.7W; in case a less power load solenoid valve is used, if the valve keeps on powered even if the contact of the relay is opened, the RC Filter must be eliminated by cutting the terminal of the resistor R8.

Thermoregulation of the fan (RL2/RL5/RL6/RL7)

The fan contactor managed by the relay set as such function operates as follow:

a) if the air end temperature is equal or higher than H03 = RL5 ON;

b) if the air end temperature is lower than (H03 – H04) = RL5 OFF.

When the relay set as fan operation is activated, on the main visualization the display shows the blinking icons °C (°F).

Operation of relay set as condensate drain solenoid valve (RL2/RL5/RL6/RL7)

Every time the load solenoid valve is powered (RL4), the condensate drain solenoid valve is activated and deactivated according the time set on the parameters t06 and t07.

Compressor stopped through remote start/stop input (IN3/IN4/IN5/IN6)

When the remote start/stop input opens (default IN3), the compressor stops according the following procedures:

a) if the pressure is between start and stop set and the compressor is loading (load solenoid valve is ON and icon is visualized on the display), load solenoid valve is switched off (RL4), LCD visualizes the blinking message OFF and icon starts blinking also; once time t05 is over if the remote start/stop input (IN3) is still open, the compressor stops and message OFF stops blinking; during t05 in progress if the remote start/stop input (IN3) closes, the compressor comes back under pressure transducer operation;

b) if the pressure is between start and stop pressure and the compressor is unloading, load solenoid valve (RL4) keeps off and icon keeps on blinking; once timer t04 is over, the compressor stops and the display visualizes the message OFF;

c) if the compressor is in stand-by due to pressure set reached, LCD keeps on visualizing the message OFF.

When the remote start/ input is open the display visualizes the icon .

Restart after power off

Automatic.

In case of power off, when the power comes back again, the compressor restarts from the operation previous to power off: if it was ON, will follow the start procedure mentioned below, after the timer **tOS**; during **tOS** in progress, the message **OFF** blinks.

Manual.

In case of power off, when the power comes back again, the compressor doesn't restart automatically and the display visualizes the message **P-OF**; after the message has been reset, the compressor will start by pushing . 

INVERTER OPERATION

If you enable the output 4/20mA and set the parameter **AoO**=1 (working pressure control) or 2 (air end temperature control), the display visualizes the icon .

You have to connect the output 4/20 to the inverter analog speed reference.

In case **AoO**=1 the inverter motor run command can come from RL2, RL5, RL6 o RL7 (parameter set **rL2**, **rL5**, **rL6** or **rL7** = 5, it means air end motor operation activated), possibly through an auxiliary relay.

In this case the motor start procedure changes: the compressor goes directly to the motor run status and inverter is activated at minimum frequency, wait for timer Wt3 and then RL4 switches on (load solenoid valve).

PID is enabled and the motor can speed up if the air end temperature is over **H06**.

In case **AoO** =2 run command to the inverter motor can come through relay RL5 (possibly via auxiliary relay) or RL6, RL7 (parameter set **rL6** or **rL7** = 2, it means fan operation activated).

For the calculation made by the controller, please mMake reference to PID operating diagram in menu 10 **Ao**.

MASTER/SLAVE OPERATION

After the two compressors has been connected through the proper terminal of serial port RS485:

1) check the parameters **t08** (timer to change Master into Slave) and **t09** (timer to start Slave in case Master can't reach the pressure set on first starting) into menu **Pt** are properly set;

2) if one of the 2 compressors has more working hours than **t08**, the other compressor will work till reaching the working hours of the first compressor plus the hours set on **t08**; after this time only, the Master/Slave rotation will be operated.

The common parameters of the 2 compressors in Master/Slave operation are:

P02-P03-P04-P05, the parameter for Manual/Automatic restart and timer **t08** e **t09**.

Changing one of these parameters, the modification is transferred to the other compressor automatically.

Pushing the Start button on one of the two compressors both are operated:
Pushing the Stop button on one of the two compressors both are stopped

Slave compressor starts only if:

1) On first ON, Master has not reached the stop pressure until the time set on **t09**.
2) The pressure goes down the value set on **P05**.
3) If one of the two compressors has the working hours higher than the time set in the parameter Timer Master/Slave (working hours), the other compressor will work continuously till to get the same working hours of the first compressor in addiction to the hours set in the parameter Timer Master/Slave; only after this time, the Master/Slave rotation will be operated.

NOTE: the compressor stops when the pressure reaches the value of **P03**.

Master/Slave rotation comes:

1) When the timer set on **t08** elapses.
2) In case Master compressor shuts off .

NOTE:

1) In case of maintenance on one of the 2 compressors, before to stop it remember to set both units into standing alone operation and set it again into Master/Slave operation after the maintenance will be carried out.
2) In case of serial line failure both compressors become Master.

MULTIUNIT OPERATION

Multiunit operation (set among a group of Logik controllers – max. 5 units) allows the management and co-operation of the compressors.

All the controllers must be connected to bus RS485 and each one ha sto be set with related MODBUS address different from others.

You can choose the addresses from **1** to **n** where **n** is the number of the controllers into the group.

It is necessary you set one of the compressor as "Master Multiunit" and this unit must have MODBUS address 1.

Till on this unit you have to set the number of "Slave" connected to Multiunit group further to "Master" unit.

"Master" unit must necessarily be Logik31-S or Logik33-S and you have to set on the operating principle:: Smart, Balance Hours or Priority (for further information make reference to Master controller manual).

On Logik19 controller You can find the parameter to set to Multiunit operation in menu 5 CnF:

- con: setting value 3 because Logik19 operates as Slave Multiunit.

- nc: setting value between 2 and **n**, where **n** is the number of the controllers into the group.

- FAd: it is the flow air delivered (Liters/minute) sent to Master: Master use this data during Smart operating principle to choose the proper compressor to start and/or stop according the plant need.

- OFL: this parameter has to be set possibly 1 in case to carry out maintenance on the compressor to inform Master unit this machine has not to be managed in the operation.

During Multiunit operation the display shows the icon **MS** on the main visualization.

The display visualizes the pressure detected by Master unit and it is the reference to the plant operation.

Icon **MS** blinks in case of no communication to Master unit or pressure transducer failure till on Master.

In case the remote start/stop inputs on Master unit opens, all the compressors in the group shift to stand-by status and the display shows the icon on the main visualization.

If you push the buttons ON/OFF on Logik19 (in case the compressor is not under maintenance: parameter OFL different from 1), all the compressors in the Multiunit group are activated/deactivated through a command sent from Master.

For the way of selection of the compressors make reference to Master instruction manual

WARRANTY TERMS

24 (twenty-four) months from the production date printed on the label of the serial number.

Temperature probe is not included in the warranty terms.

Both working and technical features of the controller must be fully respected: the warranty declines if the controller has been opened or repaired by unauthorized personnel.
Operation or modification different from the original, wrong electrical wiring or bad assembling can be cause of failures or malfunctioning of the controller; in these cases both warranty and own technical features of the controller declines.

On its unquestionable judgement, Logika Control reserves the authority to modify the product to improve operation and performance, besides to the right to withdraw the product from the production, in any time and without notice.

REVISION INDEX
Revision 0 = Issue

LogikaControl

Dichiarazione di Conformità CE
EC Declaration of Conformity CE

Noi sottoscritti,
We the undersigned,

Logika Control s.r.l
Via Garibaldi, 83/A - 20834 Nova Milanese (MB) Italia

Certifichiamo e dichiariamo sotto la nostra responsabilità che i seguenti prodotti:
certify and declare under our sole responsibility that the following apparatus:

Descrizione *Description*	**Controllo elettronico per compressori** *Electronic controllers for compressors*
Marca *Brand name*	**Logika Control**
Modello *Type model*	**LOGIK 19 (0KLC51NA)**

è conforme ai requisiti essenziali delle seguenti direttive:
conforms with the essential requirements of the following directives:

Compatibilità Elettromagnetica 2004/108/CE
EMC 2004/108/EC,

Bassa Tensione 2006/95/CE
LVD 2006/95/EC

ROHS 2011/65/EU
ROHS 2011/65/EU

e sono state applicate le seguenti norme armonizzate:
based on the following harmonized standards applied:

EN 60730-1
EN 50581

Data / *Date*
2015/03/01

Dott. Fabio Udine
Amministratore Delegato

Logika Control – Elettronica Industriale / Electronic Equipment Via Garibaldi, 83/A C.A.P. Nova Milanese (MI) Italia Tel. 0039 0362 37001
CODICE FISCALE: 11253460155 – PARTITA IVA/VAT Number: 02473170963 - CAPITALE SOCIALE € 100.000,00 - ISCR. Tribunale Milano n° MI 346859/8514/9