DK-45 MK2
COMPRESSOR CONTROLLER

COMPRESSOR CONTROLLER — DATAKOM — DK 45

P1 2.1 Bar 8.5
T1 66 °C 108

LINE LOAD ALARM SERVICE

PGM

RUN   STOP   MENU

DESCRIPTION

DK-45 is a high-tech product providing control of screw or piston type air compressors driven by electric motors.

The unit incorporates all functions needed in a compressor control panel; thus, it eliminates the need for additional modules, resulting in lower panel cost.

The early start function analyzes the air consumption trend and runs the compressor before the pressure falls below the low limit.

Using the Weekly Schedule Exerciser and Pressure Calendar functions, the compressor can be scheduled to work on given hours and days of the week with given set pressure values.

The unit is directly supplied from the 400/230V utility network. It provides fail contact and sensor supplies internally, removing the need for a supply transformer in the panel.

Utility mains voltage and frequency can be read on the unit. It offers low/high voltage and phase order protection.

The 2.9" wide, 128x64 pixel graphical screen displays values with graphic support.

RS-485 MODBUS RTU and USB communication ports allow monitoring and parameter setting via PC.

Optically isolated digital inputs feature noise filtering, allowing fault-free operation in electrically noisy environments.

The unit may be configured from the front panel or using the free software Rainbow Plus, available at the manufacturer's website.
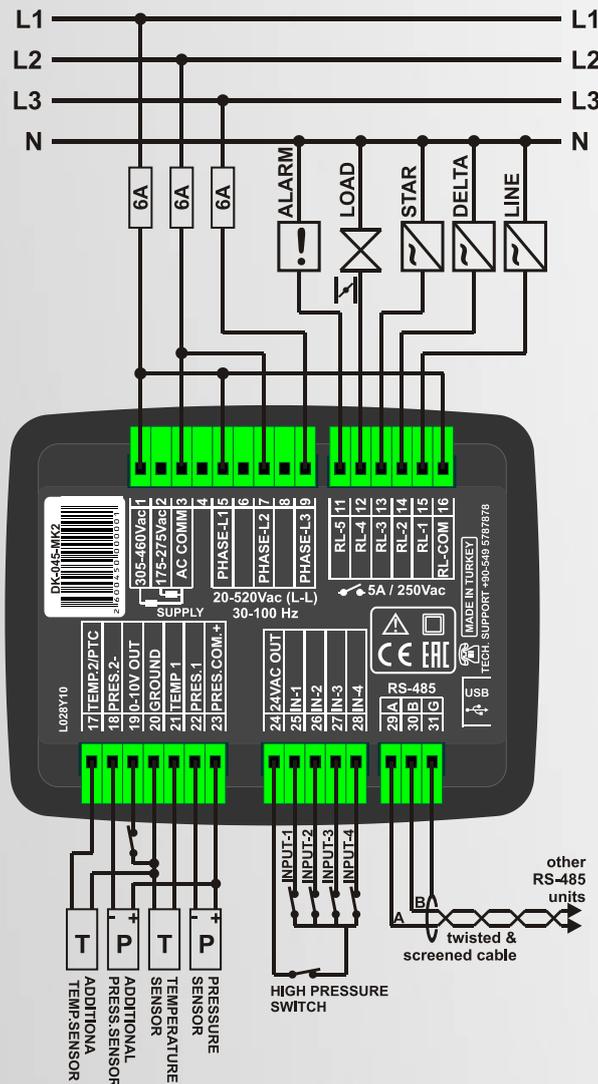
It is possible to monitor and record the unit using the free RAINBOW+ software.

FEATURES

- *Graphical LCD screen: 128x64 pixels, 2.9"*
- *Automatic operation from output pressure*
- *Voltage protection relay function*
- *Phase order protection function*
- *Flexible motor hours calculation algorithm*
- *0-10V Analog speed control output*
- *Multiple compressor support*
- *Early start function preventing pressure drop*
- *Dryer control function*
- *Event records*
- *5 independent service counters*
- *Supports various topologies*
- *Displays utility mains voltages*
- *No external transformer needed*
- *Star / Delta start-up*
- *Frequency inverter driving capability*
- *Load solenoid control*
- *5 programmable relay outputs*
- *Optically isolated, programmable digital inputs*
- *2 pressure sensor inputs*
- *2 temperature sensor inputs*
- *Adjustable sensor characteristics*
- *USB communication port*
- *RS-485 MODBUS communication*
- *Password protected front panel programming*
- *Low panel depth, easy installation*
- *Wide operating temperature range*
- *Sealed front panel (IP65 with gasket)*

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CONNECTION DIAGRAM

L1
L2
L3
N

6A 6A 6A

ALARM LOAD STAR DELTA LINE

DK-045-MK2

L028Y10

| 17 TEMP.2/PTC | 18 PRES.2- | 19 0-10V OUT | 20 GROUND | 21 TEMP.1 | 22 PRES.1 | 23 PRES.COM.+ |

305-460Vac 1
175-275Vac 2
AC COMM 3
4
PHASE-L1 5
6
PHASE-L2 7
8
PHASE-L3 9

SUPPLY
20-520Vac (L-L)
30-100 Hz

RL-5 11
RL-4 12
RL-3 13
RL-2 14
RL-1 15
RL-COM 16

5A / 250Vac

24 24VAC OUT
25 IN-1
26 IN-2
27 IN-3
28 IN-4

RS-485
29 A
30 B
31 G

USB

MADE IN TURKEY
TECH. SUPPORT +90-549 578 7878

CE   EAC

T - P + T - P +

ADDITIONAL TEMP.SENSOR
ADDITIONAL PRESS.SENSOR
TEMPERATURE SENSOR
PRESSURE SENSOR

INPUT-1
INPUT-2
INPUT-3
INPUT-4

HIGH PRESSURE
SWITCH

A B
other
RS-485
units

twisted &
screened cable

TECHNICAL SPECIFICATIONS

Supply Voltage: 305 – 460 VAC (COMM-400V)
175 – 275VAC (COMM-230V)
Supply Frequency: 50 - 60Hz nominal (± %10)
Power Consumption: < 4 VA
Measurement Inputs:
   Voltage: 20 - 520 V AC (Phase-Phase)
   10 - 300 V AC (Phase-Neutral)
   Frequency: 30 - 100 Hz
   Burden: < 0.1VA per phase
Accuracy: **Voltage:** % 0.5 + 1 digit
   Frequency: % 0.5 + 1 digit
Relay Outputs: 5A @ 250V AC
Digital Inputs:
   Supply: Provided internally
   Active Level: external contact < 3 K-ohm
   Isolation: opto-isolated, 1000V AC, 1 min
Pressure Inputs: 4-20mA pressure sensor
Temperature Inputs:
1. Temperature sensor: 100ohm – 20k-ohm
2. Temperature sensor: 100ohm – 100k-ohm
(KTY or NTC or PTC sensor)
Heating current: < 0.3mA

Motor PTC input: gives fault over 2000 ohm
Communication Ports:
USB Device: USB 2.0 full speed (1.5-12Mbits)
RS-485 Port: 2400-115200 adjustable baud rate
Operating Temperature: -20°C to +70 °C
(-40°C to +70 °C with heating option)
Storage Temperature: -40°C to +80 °C
Max. Relative Humidity: %95 non-condensing.
Protection Rating: IP 65 (front, with gasket)
   IP 30 (back)
Enclosure: Flame retardant, ROHS
   compliant, high temperature ABS/PC
   (UL94-V0)
Installation: Panel mounted, rear retaining
   plastic brackets.
Dimensions: 133x107x46mm (WxHxD)
Panel Cutout: 117x87mm   minimum
Weight: 350 gr

EU Directives: **Reference Standards:**
2006/95/EC (LVD)   EN 61010 (safety)
2004/108/EC (EMC)   EN 61326 (EMC)

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