KRK

Electric Construction
Tourism Industry and
Trade Limited Co.

BlackSTN®

Pump Control Systems

MOTOR MOUNTED DRIVER TECHNICAL INFORMATIONS

We manage water.
You can use it safely.

Motor Mounted Driver Control Units

CE

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1. General Product Informations

For the 3-phase asynchronous motor to rotate at different speeds or to rotate at the same speed in all conditions, the frequency inverter must be used.There are some advantages of speed control of asynchronous motor with frequency inverter. Motors consume high energy. To prevent this high energy consumption and in order to ensure that it rotates at the desired speed under all conditions, PID controlled frequency inverter motor drives are produced that operate at the desired constant speed without tiring the motor by generating different frequencies.Frequency control works by adjusting the speed level required by the load under optimal conditions. Even a slight change in speed can significantly reduce energy consumption When the motor driver is not used, the pump runs at full speed in all conditions. Thanks to frequency control, energy can be saved by reducing the speed of the pump motor when the need for water is reduced. Considering that 40% of the world's electrical energy is consumed in motors, the efficient use of frequency control motor applications can reduce the global energy consumption by 10%.

Figure 1: Control Unit View

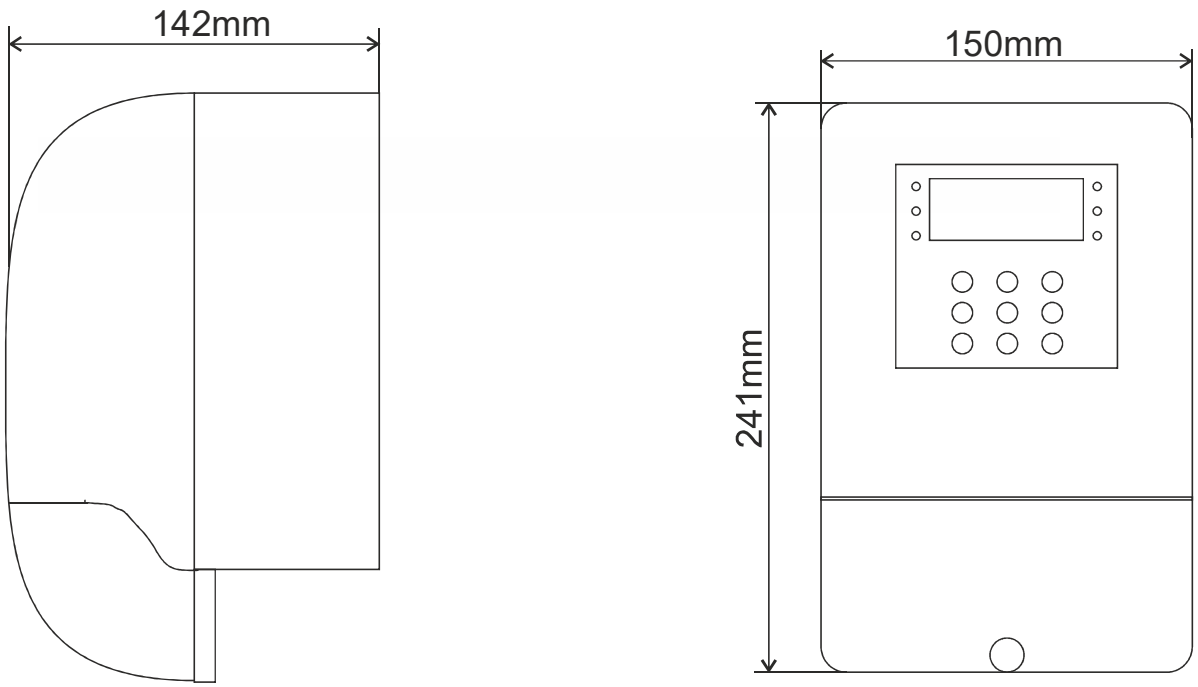

Figure 2: Control Unit Dimensions

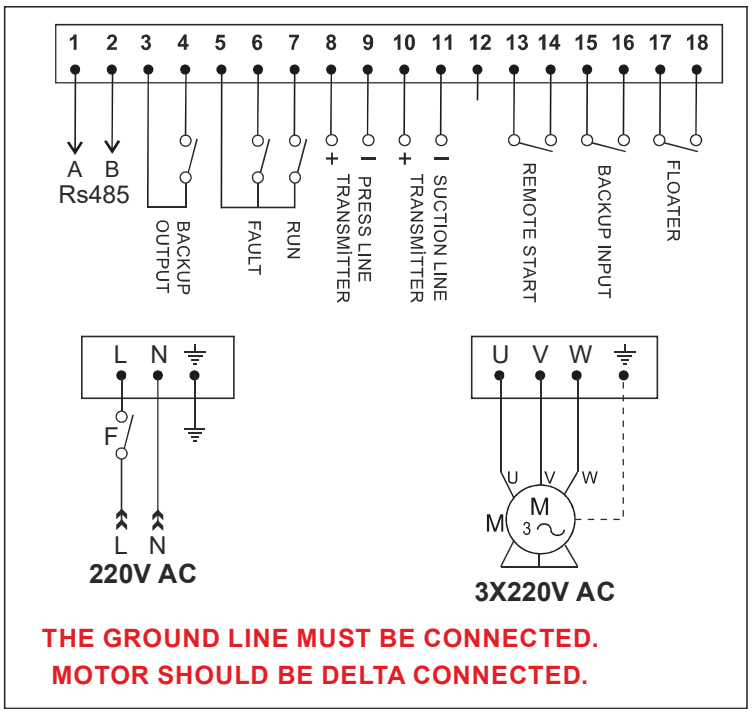

Figure 3: BCF/20P Connection Diagram

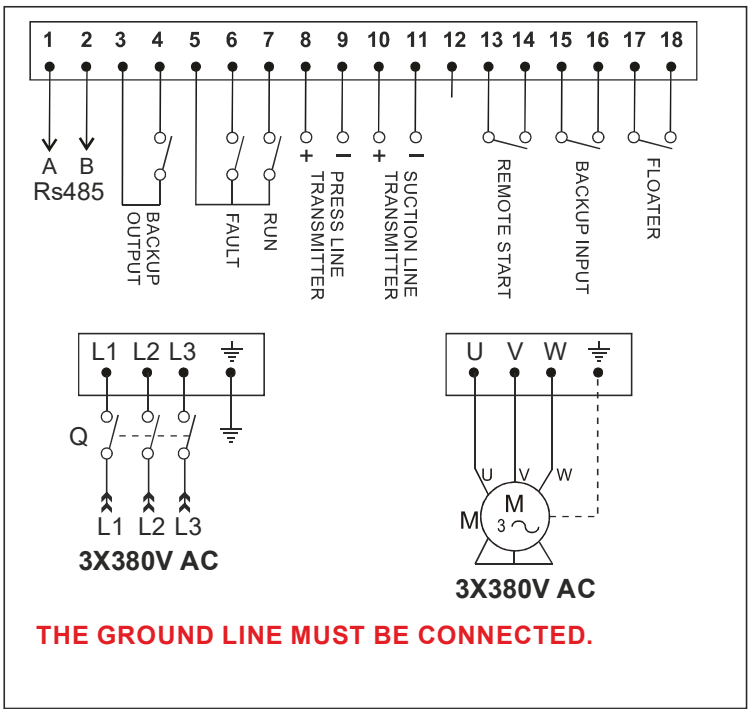

Figure 4: BCF/21P Connection Diagram

Specifications

1. 2X16 LCD (Liquid Crystal Display)
2. 3 isolated digital inputs
3. 2 isolated analog inputs
4. 3 relay outputs
5. Real-time warehousing
6. Modbus RTU Communication
7. Remote on/off digital input
8. Automatic pump change. Master pump selection
9. Working frequency, current, voltage and pressure values can be seen on the screen
10. Full sinusoidal output with sinusoidal PWM (Pulse-width modulation) control
11. Pump backup. Equipping the backup pump with the number of pumps + the maximum pump selection
12. The Multipump feature can be selected from the menu
13. Protection against engine blockage with its frost protection feature
14. 150% 1 min. while 170% for 2 sec. Excessive moment capacity with time
15. Protection against pipe explosions with installation protection feature
16. Password Access to Menu
17. PID control. PID Fast-Normal-Slow selection mode
18. Hydrophore + circulation + heating + cooling operation mode selection
19. High Pressure Protection
20. Operation with BMS Dry Contact Fault Status Information
21. Communication between drivers with 2-wire shielded cable
22. On-screen monitoring of pumps operation,standby, failure and cancellation
23. Monitoring of set pressure and working pressure on the screen
24. Monitoring of pump running times
25. Ability to set pump transition time settings
26. Sleep active passive option and sleep time setting
27. Turkish-English Language Option
28. Upgrading frequency to avoid constant pressure instability when switching to sleep
29. Installation at the motor terminal or anywhere desired thanks to the internal cooling fans
30. LED warning of operating and failure conditions
31. Ability to adjust takeoff, stop and constant pressure holding times