ZDL-A shaft current monitoring device

◇ Overview

The shaft current monitoring device adopts a high-performance single-chip microcomputer as a core control component to constitute a controller, and uses a hollow annular transformer as a shaft current sensor to monitor the shaft current change generated by the large shaft of the hydro-generator set. The main features are:

1. High-definition LED digital display of measured values and setting parameters.

2 , WATCH DOG monitoring technology anti-crash, digital rate filtering technology enhances anti-jamming capability.

3 , using a dedicated acquisition chip to make the display more stable and reliable, high accuracy.

4 , E ^{2} PROM data protection, all setting parameters will not be lost.

5 , 2 groups of alarm values can be arbitrarily set within the range, and can be set according to user needs, flexible and convenient to use.

6. The shaft current sensor adopts a semi-annular structure and is easy to install.

7. The meter is equipped with current value compensation, D/A translation compensation and D/A linear compensation.

◇ Main technical indicators

1 , working environment: temperature range 0~40 ° CRelative humidity $\leq$ 85% ;

2 , working power: AC110V~220V ± 10%

3 , measurement range: 0~10A;

4 , measurement accuracy: <1% ;

5 , current compensation: 0~1A;

6 , output signal: 2 sets of relay AC220V /2AContact output

7 , analog output: 4~20mA (corresponding to 0~10AFull scale) , load capacity<500Ω ;

8 , D / A compensation: -5 ~ 5mA ;

9 , power consumption: ≤ 20W ;

10 , communication output: interface mode - standard serial two-way communication

   interface RS485 ;

Baud rate - 2400 , 4800 , 9600 , 19200 internal freely set;

◇ structure and installation

1 , shaft current monitoring device

1 Installation dimensions are shown below: 2 Standard slot installation method.

3 Mounting plate opening size 76 × 154 mm , the device is inserted from the hole of the

   disk, and the mounting screw can be tightened from the rear end.

4 Dimensions: 80 × 160 × 200 mm.

2 , shaft current sensor

In the above figure, D is the diameter of the generator shaft;

The shaft current sensor should be mounted in a stationary part that reflects the large shaft current and is fixed to the generator frame via an external bracket.Before installation, remove the connecting wires on the sensor and the captive screws on the connecting plate, then put the two halves on the large shaft of the generator and fix them into a full circle with screws. The clearance at the semicircle butt joint should be less than0.1mm. When installing,

make the gap between the sensor and the generator shaft as uniform as possible. The fixed sensor is not allowed to be loose.

Wiring of the shaft current sensor:

1 Connect the two adjacent red terminals (a , a) and connect the two black terminals (b , b).

□ The other end of the two red terminals (A1 , A2) and the instrument A1 , A2 are connected. Two black binding posts (B1 , B2)
与仪表的 B1，B2 相连。

□ 连好接线后应再检查一下 A1，A2，B1，B2 接线的位置是否正确，可如下判断：用万用表的电阻档测 A1，A2 两端为通路，说明 A1，A2 接线正确；同理测 B1，B2 两端为通路，说明 B1，B2 接线正确；如果不通则说明接线有误调换接线顺序直到出现以上两种状态。然后判断 A1，A2 和 B1，B2，用万用表的电阻档一般为 200 欧档位，分别测得 A1，A2 端和 B1，B2 端的阻值，然后进行比较，如果 A1，A2 端的阻值大于 B1，B2 端的阻值则说明接线正确，如果小于则说明 A1，A2 和 B1，B2 接线相反，需要调换。
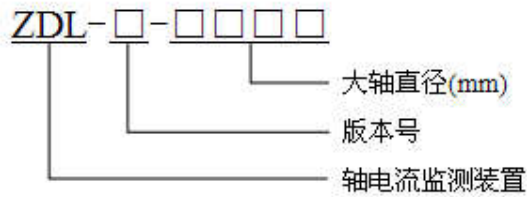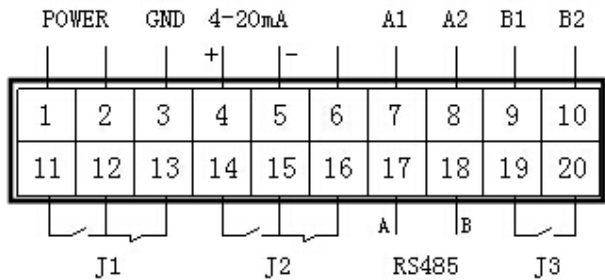
□ 正确的接线才可以使仪表测量准确和稳定可靠。

◇面板说明
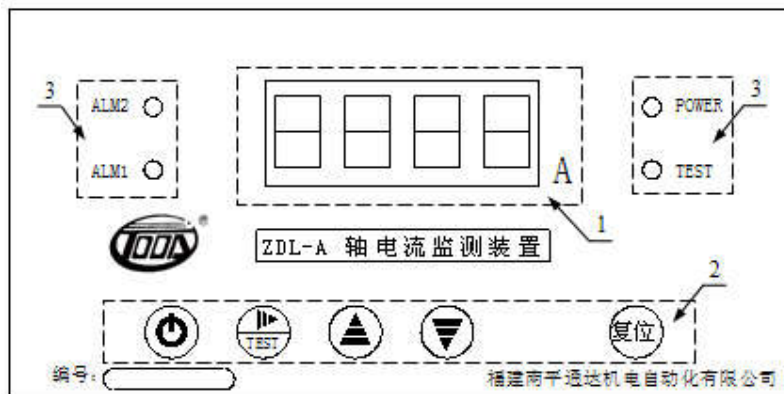
名称		内容
显示器	LED 数字显示器	显示测量值
		在参数设定状态下，显示参数符号或设定值
操作键	⏻【设置】键	按序变换参数设定模式和设定值；记录已变更的设定值
	▶ Test【移位/试验】键	参数设定状态下，可循环右移；开启自检时，进行试验测试
	▲ 增加键	变更设定值时，用于增加数值
	▼ 减少键	变更设定值时，用于减少数值
	复位键	进入测控状态
指示灯	POWER 电源指示	系统上电后灯亮
	TEST 自检测试	自检打开时灯亮
	ALM1 一级报警	达到一级报警限值时灯亮
	ALM2 二级报警	达到二级报警限值时灯亮

◇型号说明

ZDL-□-□□□□
- 大轴直径(mm)
- 版本号
- 轴电流监测装置

◇背板说明

POWER GND 4-20mA A1 A2 B1 B2
               +   -

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |

J1   J2   RS485   J3
              A B

1、工作电源 AC220V 接端子（1）、（2）；端子（3）接地。

2、模拟量输出 4~20mA、其中端子（4）为正、（5）为负。

3、工作绕组 A1、A2 接端子（7）（8）；试验绕组 B1、B2 接端子（9）（10）。

4. The output terminals (11) and (12) of the primary alarm relay arenormally open,

   (12) and (13) normally closed; the output terminals (14) and (15) of

   the secondary alarm relay are normally open, (15), (16) Normally closed.

. 5 , the RS485 output interface, wherein the terminal (17) is A , (18 is) isB .

6. The power failure alarm output is terminal (19), (20).