

## **FUNCTIONALLY SAFE SWITCHING VALUE OUTPUT MODULE AND DIAGNOSTIC PROCESSING METHOD**

### **ABSTRACT**

5        A functionally safe switching value output module, comprising: a CPU unit and  
first/second output units each coupled to the CPU unit. The first/second output units comprise  
logic circuits, drive circuits, back-checking circuits and output switches coupled in sequence,  
and power supply voltage detection circuits coupled to the drive circuits. A functionally safe  
switching value output module-based diagnostic processing method may control the output of  
10 the output switches on the basis of output switch fault diagnosis, communication diagnosis,  
CPU unit internal fault diagnosis, power supply fault diagnosis and line fault diagnosis  
results.

Fig. 4

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