

ICS 29.130.20

CCS K 30



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 21208-2007

**Low-voltage switchgear and controlgear -- Controllers for
drivers of stationary fire pumps**

低压开关设备和控制设备 固定式消防泵驱动器的控制器

(English Translation)

Issued on: December 3, 2007

Implemented on: May 1, 2008

Issued by: Standardization Administration of China

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Foreword

This revised standard adopts IEC/T S62091.2003 "Low-voltage switchgear fixed fire pump drive and control equipment control Device. " this standard uses IEC/T S62091.2003 when, according to China's national conditions has been modified. About the technical differences have been incorporated into the text, A single vertical line and the space identified in Appendix D are given in terms of which they are involved in the technical margin of these differences and their reasons List for reference.

The Standard Appendix A and Appendix C are normative, Annexes B and D are informative appendices.

The standard proposed by China Electrical Equipment Industrial Association.

The low-voltage electrical standard by the National Standardization Technical Committee (SAC/TC189) centralized.

Introduction

This standard is standard on the safety of the equipment. It is based in part on NFPA20 (1996) "the centrifugal fire pump installation standards" on the basis of prepared by. When the building on fire, the controller receives the signal automatically, manually - manual or electric signals - work instructions issued by the emergency actuator, the control System should be able to start the fire pump drive (motor or diesel). Fire pump driver starting failure will result in fire losses (including construction Property and personal safety were inside) further.

These differences between the controller and the controller GB 14048 series of standards is that they are not specified in a running state. These controllers the installation should comply with the requirements of the installation site, usually they are mounted in a predetermined fire rating of the pump chamber or pumping stations. These places are usually There will produce condensation pipe, there is likely to be sprayed, and is located close to other buildings equipped with power distribution equipment.

Fire pumps for lifting water pressure. Many sprinkler systems have small leaks, therefore, equipped with "secondary pump" (also known as the water supply pump) to maintain water Pressure pipes must, which can prevent the main fire pump frequent starting and stopping. In the long term fire pump does not work, water leaks Flows through the stationary fire pumps will carry sand, concrete building materials, lime, rust, etc., and accumulate in the fire pump. The pump impeller accelerated clearance Before Li pump, fire pumps these impurities will hinder normal start. Whether the fire pump starting mode "cold start" (first start) or "hot start" (heavy New start), this standard allows the fire pump to run up to 20s in the next stall current role. Because the closed fire pump to protect the equipment may cause fire Pump together with all buildings and their belongings were burned inside the fire, so while starting a fire pump fault may cause the wiring, equipment and Temporary or permanent damage to the motor, but it should still start.

Several examples of the fire pump controller and another controller structure and install the application below.

1) All fire pump controller.

a) in an attempt to start a faulty motor/fire pump and keep them running, you can "sacrifice" of the main circuit conductors and yuan Member (i.e., allows temporary or permanent damage).

b) fire pump controller should have a high degree of reliability. When the detected pressure drop in sprinkler piping or by other automatic fire Detection device automatically start the fire pump drive to suppress the fire.

c) failure should not prevent the external control circuit operated by other internal or external fire pump mode.

d) should be set to the external control circuit, fault (open or shorted) any external circuits are not hampered by other internal Fire pumps or external operation mode. These damaged circuits, disconnection, short-circuiting or loss of energy caused by continuous operation of the fire pump, but not because of reasons other than the external control circuit to prevent the controller from starting the fire pump.

e) External Automatic start by disconnecting the external device should be a normally closed contact for control electrical controller normally energized Way off.

f) When allowed external start button or other starting device, the controller should be equipped with means (Remote Off for remote off Close button should not be used).

g) when the control element may cause damage to the motor starter, this is not the normal start is allowed.

2) motor fire pump controller.

a) In the electromagnetic contactor mode can not be closed, the controller should have requested an external, artificial mechanically operated devices.

b) The controller should only be equipped with short circuit and locked rotor protection, not allowed to install the thermal overcurrent protective devices.

c) release power protection devices should be allowed to carry long 300% rated motor current.

3) diesel fire pump controller.

a) shall be provided at least once a week to automatically start the engine approach.

b) when necessary, not because of low oil pressure or high temperature engine start or stop the engine stopped.

Therefore, the standard main purpose is to describe the unique characteristics of fire pump controller.

Low-voltage switchgear and control equipment Fixed fire pump drive controller

1 Scope

This standard applies to start, control and stop the fire pump stationary drive controller, including AC motor or diesel engine driven consumption Anti-pump automatic and non-automatic controller. Each controller can control a separate drive.

Note: For commonly used in China a main one electric fire pump system, as long as, in any case to ensure that they do not run at the same time, it could be considered as the controller controls Made a separate electric motor drives.

Motor-driven fire pump controllers comprise a suitable short-circuit protection device in

combination with the controller as a whole. These controllers can include a power switch, the maximum voltage rating of the AC 1000V.

Diesel fire pump controllers contain electronic circuits which can complete a variety of control and monitoring functions, such as. remote control (start and stop), alarm, signal, and battery charger indicator of the correct action.

The main purpose of the standard is to describe the unique characteristics of fire pump controller, further provides that the operation of the controller program to test its unique Effectiveness characteristics. Purposes of this standard, the program is called "fire pump controller testing procedures." the purpose of this standard is to provide the following aspects.

- a) fire pump controller, the unique characteristics of their related equipment and its operation functions.
- b) fire pump controller shall meet the conditions related to.
 - 1) structure of the controller;
 - 2) The key elements of the controller, including the installation, layout, wiring and connections;
 - 3) Housing protection grade;
 - 4) operation;
 - 5) operation and performance under normal, overload and short circuit conditions;
 - 6) the ability to notice significant events;
 - 7) the environment to its electromagnetic compatibility.
- c) test is used to determine these conditions, as well as the method used to meet these tests.
- d) Information provided by the controller together with the information provided or the manufacturer's technical documentation.

In this sense, this standard is given to the motor drive and diesel-driven fire pump all electrical performance requirements. This standard is not Han Cover explosive gas, nuclear installations, ships, aircraft and other special applications. About the power requirements of this standard apply only to the end user Kind of the mouth of power, performance and features (see IEC 60364-5-55).

The standards do not apply to or by means of power generation, does not apply to the proposed IEC 60364 and at the input buildings and apparatus for the fire pump controller. This standard does not apply to stationary fire pumps may be assembled with the diesel-powered hair Motor.