

A safety protection system backup device that detects the state of a plant and if an abnormality is found, issues an instruction to safety system field equipment (4) according to the output of a first safety protection logic (222) in a safety protection device (2), and if there is a common cause failure in the safety protection device (2), issues an instruction to the safety system field equipment (4) according to the output of a second safety protection logic (312) in a CCF facility (3), wherein the first safety protection logic (222) and the second safety protection logic (312) are configured to perform digital signal processing using different logic configurations, so that an input device (21) and an output device (23) can be shared by the safety protection device (2) and the CCF facility (3), thereby eliminating the need to provide an input device and an output device dedicated to the CCF facility (3), and so that even if there is an increase in the quantity of detectors (1) and safety system field equipment (4), that increase can be accommodated without increasing the quantity of the CCF facility (3).