The fault detection for the PAC

Click the link for more ISaGRAF FAQ.

I-7188EG :	ver. 2.05 or later	I-7188XG :	ver. 2.04 or later
I-8xx7 :	ver. 3.07 or later	W-8x37 :	ver. 3.17 or later

There is two type of controller fault. One is "**Global**" fault. The other is "**Local**" fault. When Global fault happens, the ISaGRAF project will stop running. Waiting the new modified project to be download. When Local fault happens, the ISaGRAF project still runs.

HMI / PC can request the controller fault state by using Modbus protocol.

Word address of 9999 is the controller fault state. 0: Ok, 1: Controller fault.
Word address of 9998 is the controller fault type.

101: **Global fault**
(other value is Local fault)
102: S_R_R error, invalid REAL value
103: R_MB_REL error, invalid REAL value
104: INT_REAL error, invalid REAL value
105: RETAIN_F error, invalid REAL value
106: RETAIN_X error, invalid REAL value
107: Real value divided by 0
108: Integer value divided by 0
109: F_READ_F error, invalid REAL value (For Wincon-8x37/8x36 only)
110: I-87K IO board in slot 0 to 7 not found.

When Local fault happens, the project is still running, the ISaGRAF project can use R_MB_ADR(1, 9999) to get controller_state and R_MB_ADR(1, 9998) to get fault_type. To clear the value in Network address 9999 & 9998, please use W_MB_ADR(1, 9999, 0) and W_MB_ADR(1, 9998, 0)

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Example:

```
(* When controller "Local Fault" happens, the ISaGRAF program can detect it and then program can do
the right action *)

(* is_fault & fault_type are declared as internal integer *)
(* tmp is declared as internal boolean *)
(* PC / HMI can request controller fault state & type by Modbus protocol at No.=9999 & 9998 *)

(* to get controller state *)
is_fault := R_MB_ADR(1,9999);          (* 0: Ok , 1: controller fault happens *)

(* To get controller fault type
    101: Global fault : project stop running, only HMI/PC can request it by Modbus No. 9999 & 9998
    --- other value is Local fault ---
    102: S_R_R error, invalid REAL value
    103: R_MB_REL error, invalid REAL value
    104: INT_REAL error, invalid REAL value
    105: RETAIN_F error, invalid REAL value
    106: RETAIN_X error, invalid REAL value
    107: Real divided by 0
    108: Integer divided by 0
    109: F_READ_F error, invalid REAL value (For Wincon-8x37/8x36 only)
    110: I-87K IO board in slot 0 to 7 not found.
*)
fault_type := R_MB_ADR(1,9998);

if    is_fault=1    then

   (* Do action here when    "Local Fault" happens *)
   (* ...                                                    *)

   (* Only for Wincon-8x37: Stop program running & reset all output in slot 0 to 7 *)
   (*    tmp := Stop_APL( );    *)

   (* To clear the value in Network address 9999 & 9998 when Local fault happens *)
        tmp :=    W_MB_ADR(1, 9999, 0);
        tmp :=    W_MB_ADR(1, 9998, 0);

end_if;
```


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