Code

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CASE iState 1000 OF

    0: (* Wait for start of Example program *)
        IF xStart TRUE = TRUE THEN
            iState 1000 := 10;
        END_IF;

    10: (* Initialization of client and FC3 function block *)
        (* Client *)
        udtClient.xActivate TRUE := FALSE;
        udtClient.xAutoAck FALSE := FALSE;
        udtClient.strServer_IP '192.168.0.24' := '192.168.0.24';
        udtClient.iPort 502 := 502;
        udtClient.xUDP_Mode FALSE := FALSE;
        udtClient.tTimeout T#10s := TIME#10s;

        (* FC3 function block *)
        udtMB_TCP_FC3.xActivate TRUE := FALSE;
        udtMB_TCP_FC3.iMT_ID 1 := 1;

        iState 1000 := 100;

    100: (* Start client function block first and wait for xActive *)
        udtClient.xActivate TRUE := TRUE;
        IF (udtClient.xActive FALSE = TRUE) THEN
            iState 1000 := 1000;
        END_IF;

    (* Read min. number of registers *)

    1000: (* Now activate FC3 function block and set inputs *)
        udtMB_TCP_FC3.xActivate TRUE := TRUE;
        udtMB_TCP_FC3.uiQuantityOfRegisters 1 := UINT#1;
        (* udtFC3.arrRegisterValues = ARRAY [1..125] OF WORD *)
        udtMB_TCP_FC3.wStartRegister 16#0000 := WORD#0;
        (* Wait for xActive of FC3 function block *)
        IF (udtMB_TCP_FC3.xActive FALSE = TRUE) THEN
            iState 1000 := 1010;
        END_IF;

    1010: (* Check values *)
        (* Modbus server has to deliver these values! *)
        IF (udtMB_TCP_FC3.xError TRUE = FALSE)
            AND (udtMB_TCP_FC3.arrRegisterValue[1] 16#0000 = WORD#16#FEDC)
        THEN
            iState 1000 := 2000;
        END_IF;

    (* Read max. number of registers *)

    2000: (* Deactivation of FC3 function block before read again *)
        udtMB_TCP_FC3.xActivate TRUE := FALSE;
        (* Wait for xActive = FALSE after deactivation *)
        IF (udtMB_TCP_FC3.xActive FALSE = FALSE) THEN
            iState 1000 := 2010;
        END_IF;

    2010: (* Activation of FC3 function block and set inputs *)
        udtMB_TCP_FC3.xActivate TRUE := TRUE;
        udtMB_TCP_FC3.uiQuantityOfRegisters 1 := UINT#125;
        (* udtFC3.arrRegisterValues = ARRAY [1..125] OF WORD *)
        udtMB_TCP_FC3.wStartRegister 16#0000 := WORD#0;
        (* Wait for xActive = TRUE *)
        IF (udtMB_TCP_FC3.xActive FALSE = TRUE) AND (udtMB_TCP_FC3.xError TRUE = FALSE)THEN
            iState 1000 := 2020;
        END_IF;

    2020: (* Check values, only if xOK = TRUE values are read correctly *)
        (* Modbus server has to deliver these values! *)
        xOK FALSE := TRUE;
        IF (udtMB_TCP_FC3.xError TRUE = FALSE)
            AND (udtMB_TCP_FC3.arrRegisterValue[1] 16#0000 = WORD#16#FEDC)
        THEN
            FOR iIndex 0 := 2 TO 125 BY 1 DO
                iRef 0 := iIndex 0 - 1;
                wTmp 16#0000 := udtMB_TCP_FC3.arrRegisterValue[iIndex];
                iTmp 0 := WORD_TO_INT(wTmp 16#0000);
                    IF (iTmp 0 <> iRef 0) THEN
                        xOK FALSE := FALSE;
                    END_IF;
            END_FOR;
        END_IF;
        IF xOK FALSE THEN
            iState 1000 := 3000;
        END_IF;

    3000: (* Finish *)
        (* Deactivate client and FC3 function block *)
        udtClient.xActivate TRUE := FALSE;
        udtMB_TCP_FC3.xActivate TRUE := FALSE;
        IF (
            udtMB_TCP_FC3.xActive FALSE = FALSE
            AND udtClient.xActive FALSE = FALSE
        ) THEN
            IF xStart TRUE = FALSE THEN
                iState 1000 := 0;
            END_IF;
        END_IF;
END_CASE;
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