

TwinCAT PLC Library: TcMC2_XFC

Data type CAMSWITCH_REF

The data type `CAMSWITCH_REF` refers to a data structure with cam parameters for a digital cam controller [MC_DigitalCamSwitch](#).

```

TYPE CAMSWITCH_REF :
STRUCT
    NumberOfSwitches : UDINT;
    pSwitches        : POINTER TO MC\_CamSwitch;
    SizeOfSwitches   : UDINT;
END_STRUCT
END_TYPE

```

The actual data structure for parameterisation of a digital cam controller is usually an ARRAY OF [MC_CamSwitch](#). `CAMSWITCH_REF` refers to this structure via a pointer and clearly defines the size of the structure and the number of actual cams.

A variable of type `CAMSWITCH_REF` is initialised as illustrated in the following example:

```

VAR
    CamSwitchArray : ARRAY[1..3] OF MC\_CamSwitch;
    CamSwitchRef   : CAMSWITCH_REF;
END_VAR

(* real number of defined digital cams *)
CamSwitchRef.NumberOfSwitches := 1; (* 1..3 *)

(* pointer to the digital cam data array *)
CamSwitchRef.pSwitches := ADR(CamSwitchArray);

(* maximum size of the digital cam data array *)
CamSwitchRef.SizeOfSwitches := SIZEOF(CamSwitchArray);

```

CamSwitchRefTrack1 : CAMSWITCH_REF	
	Value
NumberOfSwitches	3
pSwitches	ADR(CamSwitchArrayTrack1)
SizeOfSwitches	SIZEOF(CamSwitchArrayTrack1)

CamSwitchArrayTrack1 : Array [1..n] OF MC_CamSwitch					
	Switch 1	Switch 2	Switch 3	...	Switch n
FirstOnPosition	2000	2500	4000		
LastOnPosition	3000	3000	1000		
AxisDirection	POSITIVE	NEGATIVE	BOTH		
CamSwitchMode	POSITION	POSITION	POSITION		
Duration [s]	—	—	—		

CamSwitchRefTrack2 : CAMSWITCH_REF	
	Value
NumberOfSwitches	1
pSwitches	ADR(CamSwitchArrayTrack2)
SizeOfSwitches	SIZEOF(CamSwitchArrayTrack2)

CamSwitchArrayTrack2 : Array [1..m] OF MC_CamSwitch			
	Switch 1	...	Switch m
FirstOnPosition	3000		
LastOnPosition	—		
AxisDirection	BOTH		
CamSwitchMode	TIME		
Duration [s]	1,350		