

**Safety manual of the decentralized safety controller
PFF-HM31A for MOVIPRO®**

Checklist for project planning, programming, and startup

Company			
Date, place			
Project / customer plant:			
Safety-related inputs			
Requirement	Yes	No	Remark
Is this input safety-related?			
Is the error code processed in the user program?			
Is a safety-related sensor/encoder intended for this input?			
Safety-related digital inputs			
Is line control used for this input?			
Is this input supplied with an OSSD sensor? Is this input OSSD-capable?			
Counter inputs			
Function: HSC (High Speed Counter)			
Is the system parameter Counter[0x].Gray Code set to FALSE?			
Safety-related digital outputs			
Is this output safety-related?			
Is the error code processed in the user program?			
Is a safety-related actuator intended for this output?			
Does the channel load (ohmic, inductive or capacitive) corresponds with the maximum permitted value? (Chapter "Technical Data" in the operating instructions)			
Does the module load correspond with the maximum permitted value?			
Are protection circuits (free-wheeling connection) intended for the actuators?			
Has the actuator (2-pole connection) been wired according to the operating instructions?			

Checklist for creating a user program with the SILworX programming tool			
Company			
Date, place			
Project / Customer plant:			
File /archive			
Verifications	Yes	No	Remark
During program creation / prior to changes			
Is the configuration of the PES and the user program made on the basis of safety-related aspects?			
Are project planning guidelines used for creating the user program?			
Are functionally independent parts of the program encapsulated in functions and function blocks?			
Are only safe signals used for all safety functions?			
Does the user program receive every safety-related signal properly (also via communication)?			
Is every safety-related signal sink written properly (also via communication)?			
Are protocols (e.g. Modbus TCP slave, PROFINET IO, etc.) or functions (multitasking, reload) used that are not activated in the unit option and are available only for test purposes? If this is the case, is the "ERROR" system LED lit red permanently?			
After a change – prior to loading			
Has the user program been checked by a person not involved in program creation with regard to the binding system specification?			
Has the result of this verification been documented and approved (date/signature)?			
Has the user program been compiled twice and the two resulting configuration CRCs been compared?			
Has the entire project been archived before loading the program to the PES?			
After a change – after loading			
Has a sufficient number of tests been performed for all safety-related logic operations (including I/Os) for all mathematic operations?			
Has all the force information been reset prior to safe operation?			
Do the enable switches correspond with the settings for maximum/defined protection?			
Is the CPU operating system (CRC) an accredited version approved by TÜV?			