

Subset of the

Technical Specification

PLCopen - Technical Committee 2 – Task Force

Function blocks for motion control:

Part 2 - Extensions

Version 1.0

Appendix A :

Compliance Procedure and Compliance List

DISCLAIMER OF WARRANTIES

THIS DOCUMENT IS PROVIDED ON AN “AS IS” BASIS AND MAY BE SUBJECT TO FUTURE ADDITIONS, MODIFICATIONS, OR CORRECTIONS. PLCOPEN HEREBY DISCLAIMS ALL WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, FOR THIS DOCUMENT. IN NO EVENT WILL PLCOPEN BE RESPONSIBLE FOR ANY LOSS OR DAMAGE ARISING OUT OR RESULTING FROM ANY DEFECT, ERROR OR OMISSION IN THIS DOCUMENT OR FROM ANYONE’S USE OF OR RELIANCE ON THIS DOCUMENT.

6. Appendix A – Compliance Statement

Listed in this Appendix are the requirements for the compliance statement from the supplier of the Motion Control Function Blocks. This part should be seen as integral to Part 1 – Function Blocks for Motion Control.

The compliance statement consists of two main groups: supported data types and supported Function Blocks, in combination with the applicable inputs and outputs. The supplier has to fill out the tables for the used datatypes and Function Blocks, according to their product, committing their support to the specification.

By submitting these tables to PLCopen, as well as those from Part 1, and after approval by PLCopen, the list will be published on the PLCopen website, www.plcopen.org, as well as a short form overview, as specified in Appendix A 2 Supported Datatypes and Appendix A 3 Overview of the Function Blocks here below.

In addition to this approval, the supplier gets access and usage rights of the PLCopen Motion Control logo, as described in Part 1, chapter Appendix A 4 - The PLCopen Motion Control Logo and Its Usage.



Statement of Supplier

Supplier name	ISG – Industrielle Steuerungstechnik GmbH
Supplier address	Rosenbergstrasse 28
City	70174 Stuttgart
Country	Germany
Telephone	0049-(0)711/ 2 29 92 30
Fax	0049-(0)711/ 2 29 92 25
Email address	info@isg-stuttgart.de
Product Name	ISG Motion Control Platform (ISG-MCP)
Product version	V263
Release date	January 2009

I herewith state that the following tables as filled out and submitted do match our product as well as the accompanying user manual, as stated above.

Name of representation (person): Dr. Dieter Scheifele

Date of signature (09/01/2009):

Signature:

6.1. Appendix A - Supported Derived Data Types

Within the specification the following derived datatypes are defined. Define which of these structures are used in this system:

Derived data types:	Where used	Supported	Which structure
TRIGGER_REF	MC_TouchProbe MC_AbortTrigger	Yes	
INPUT_REF	MC_ReadDigitalInput	No	
OUTPUT_REF	MC_DigitalCamSwitch MC_ReadDigitalOutput MC_WriteDigitalOutput	No	
CAMSWITCH_REF	MC_DigitalCamSwitch	No	
TRACK_REF	MC_DigitalCamSwitch	No	

Table 1: Supported derived datatypes

6.2. Appendix A - Overview of the Function Blocks

Single Axis Function Blocks	Supported Yes / No	Comments (<= 48 char.)
MC_TouchProbe	Yes	
MC_AbortTrigger	Yes	
MC_ReadDigitalInput	No	
MC_ReadDigitalOutput	No	
MC_WriteDigitalOutput	No	
MC_SetPosition	Yes	
MC_SetOverride	Yes	
MC_ReadActualVelocity	No	Covered by MC_ReadStatus
MC_ReadActualTorque	No	
MC_TorqueControl	No	
MC_DigitalCamSwitch	No	
MC_GearInPos	No	
MC_MoveContinuous	No	
MC_Halt	Yes	

Table 2: Short overview of the Function Blocks

6.2.1 TouchProbe

If Supported	MC_TouchProbe	Sup.Y/N	Comments
VAR_IN_OUT			
B	Axis	Yes	
E	TriggerInput	Yes	
VAR_INPUT			
B	Execute	Yes	
E	WindowOnly	No	
E	FirstPosition	No	
E	LastPosition	No	
VAR_OUTPUT			
B	Done	Yes	
E	Busy	Yes	
E	CommandAborted	Yes	
B	Error	Yes	
E	ErrorID	Yes	
B	RecordedPosition	Yes	

6.2.2 AbortTrigger

If Supported	MC_AbortTrigger	Sup.Y/N	Comments
VAR_IN_OUT			
B	Axis	Yes	
E	TriggerInput	Yes	
VAR_INPUT			
B	Execute	Yes	
VAR_OUTPUT			
B	Done	Yes	
E	Busy	Yes	
B	Error	Yes	
E	ErrorID	Yes	

6.2.3 ReadDigitalInput

If Supported	MC_ReadDigitalInput	Sup.Y/N	Comments
VAR_IN_OUT			
B	InputReference	No	
VAR_INPUT			
B	Enable	No	
B	InputNumber	No	
VAR_OUTPUT			
B	Done	No	
E	Busy	No	
B	Error	No	
E	ErrorID	No	
B	Value	No	

6.2.4 ReadDigitalOutput

If Supported	MC_ReadDigitalOutput	Sup.Y/N	Comments
VAR_IN_OUT			
B	Outputs	No	
VAR_INPUT			
B	Enable	No	
B	OutputNumber	No	
VAR_OUTPUT			
B	Done	No	
E	Busy	No	
B	Error	No	
E	ErrorID	No	
B	Value	No	

6.2.5 WriteDigitalOutput

If Supported	MC_WriteDigitalOutput	Sup.Y/N	Comments
VAR_IN_OUT			
B	Outputs	No	
VAR_INPUT			
B	Enable	No	
B	OutputNumber	No	
B	Value	No	
VAR_OUTPUT			
B	InOperation	No	
E	Busy	No	
B	Error	No	
E	ErrorID	No	

6.2.6 SetPosition

If Supported	MC_SetPosition	Sup.Y/N	Comments
VAR_IN_OUT			
B	Axis	Yes	
VAR_INPUT			
B	Execute	Yes	
B	Position	Yes	
E	Mode	No	
VAR_OUTPUT			
B	Done	Yes	
E	Busy	No	
B	Error	Yes	
E	ErrorID	Yes	

6.2.7 SetOverride

If Supported	MC_SetOverride	Sup.Y/N	Comments
VAR_IN_OUT			
B	Axis	Yes	
VAR_INPUT			
B	Enable	Yes	
B	VelFactor	Yes	
E	AccFactor	No	
E	JerkFactor	No	
VAR_OUTPUT			
B	Enabled	Yes	
E	Busy	No	
B	Error	Yes	
E	ErrorID	Yes	

6.2.8 ReadActualVelocity

If Supported	MC_ReadActualVelocity	Sup.Y/N	Comments
VAR_IN_OUT			
B	Axis	No	
VAR_INPUT			
B	Enable	No	
VAR_OUTPUT			
B	Valid	No	
E	Busy	No	
B	Error	No	
E	ErrorID	No	
B	Velocity	No	

6.2.9 ReadActualTorque

If Supported	MC_ReadActualTorque	Sup.Y/N	Comments
VAR_IN_OUT			
B	Axis	No	
VAR_INPUT			
B	Enable	No	
VAR_OUTPUT			
B	Valid	No	
E	Busy	No	
B	Error	No	
E	ErrorID	No	
B	ActualTorque	No	

6.2.10 TorqueControl

If Supported	MC_TorqueControl	Sup.Y/N	Comments
VAR_IN_OUT			
B	Axis	No	
VAR_INPUT			
B	Execute	No	
B	Torque	No	
E	TorqueRamp	No	
E	Velocity	No	
E	Acceleration	No	
E	Deceleration	No	
E	Jerk	No	
E	Direction	No	
E	BufferMode	No	
VAR_OUTPUT			
B	InTorque	No	
E	Busy	No	
E	Active	No	
E	CommandAborted	No	
B	Error	No	
E	ErrorID	No	

6.2.11 Digital Cam Switch

If Supported	MC_DigitalCamSwitch	Sup.Y/N	Comments
VAR_IN_OUT			
B	Axis	No	
B	Switches	No	
B	Outputs	No	
E	TrackOptions	No	
VAR_INPUT			
B	Enable	No	
E	EnableMask	No	
VAR_OUTPUT			
B	InOperation	No	
E	Busy	No	
B	Error	No	
E	ErrorID	No	

Basic elements within the structure of CAMSWITCH_REF

B/E	Parameter	Sup. Y/N	Comments
B	TrackNumber	No	
B	FirstOnPosition [u]	No	
B	LastOnPosition [u]	No	
E	AxisDirection	No	
E	CamSwitchMode	No	
E	Duration	No	

Basic elements within the array structure of TRACK_REF

B/E	Parameter	Sup. Y/N	Comments
E	OnCompensation	No	
E	OffCompensation	No	
E	Hysteresis [u]	No	

6.2.12 GearInPos

If Supported	MC_GearInPos	Sup. Y/N	Comments
VAR_IN_OUT			
B	Master	No	
B	Slave	No	
VAR_INPUT			
B	Execute	No	
B	RatioNumerator	No	
B	RatioDenominator	No	
B	MasterSyncPosition	No	
B	SlaveSyncPosition	No	
E	SyncMode	No	
E	MasterStartDistance	No	
E	Velocity	No	
E	Acceleration	No	
E	Deceleration	No	
E	Jerk	No	
E	BufferMode	No	
VAR_OUTPUT			
E	StartSync	No	
B	InSync	No	
E	Busy	No	
E	Active	No	
B	CommandAborted	No	
B	Error	No	
E	ErrorID	No	

6.2.13 MoveContinuous

If Supported	MC_MoveContinuous	Sup. Y/N	Comments
VAR_IN_OUT			
B	Axis	No	
VAR_INPUT			
B	Execute	No	
B	Distance	No	
B	Velocity	No	
B	EndVelocity	No	
E	Acceleration	No	
E	Deceleration	No	
E	Jerk	No	
E	BufferMode	No	
VAR_OUTPUT			
B	InEndVelocity	No	
E	Busy	No	
E	Active	No	
B	CommandAborted	No	
B	Error	No	
E	ErrorID	No	

6.2.14 Halt

If Supported	MC_Halt	Sup. Y/N	Comments
VAR_IN_OUT			
B	Axis	Yes	
VAR_INPUT			
B	Execute	Yes	
E	Deceleration	Yes	
E	Jerk	Yes	
E	BufferMode	No	
VAR_OUTPUT			
B	Done	Yes	
E	Busy	No	
E	Active	No	
B	CommandAborted	Yes	
B	Error	Yes	
E	ErrorID	Yes	