

# ISP Momentum Weighing Module

## Function Block Library

### Supplement



For Concept v 2.5

Merlin Gerin  
Modicon  
Square D  
Telemecanique



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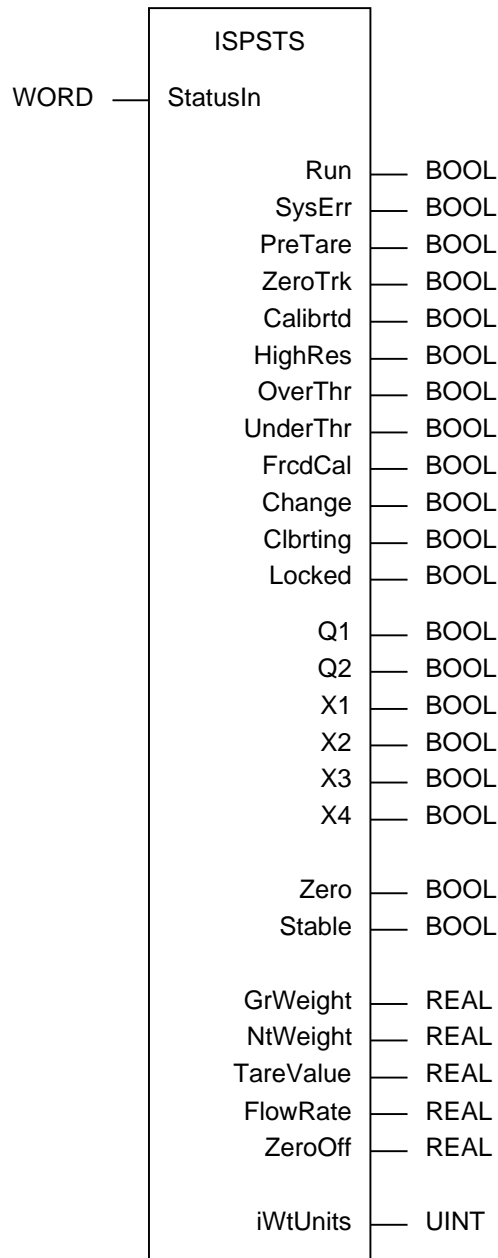
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## **ISPSTS – Runtime Status**

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Displays the runtime status of an ISP Weighing Module.



Inputs

Pin Name	Data Type	Description
StatusIn	Word	Address of first register from module

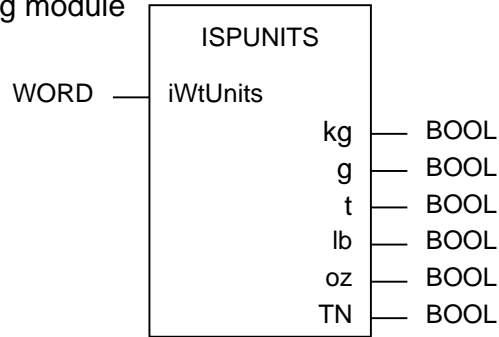
Outputs

Pin Name	Data Type	Description
Run	BOOL	Run
SysErr	BOOL	System Error
PreTare	BOOL	Predefined Tare in use when active
ZeroTrk	BOOL	Zero Tracking is enabled when active
Calibrtd	BOOL	Calibrated
HighRes	BOOL	High Resolution Mode
OverThr	BOOL	Over Threshold
UnderThr	BOOL	Under Threshold
FrcdCal	BOOL	Forced Calibration – Calibration has been forced
Change	BOOL	Output is pulsed on for one PLC scan whenever the ISP Weighing module's configuration or calibration changes (this is useful for example for detecting changes to the configuration by the ISPMom configuration and setup software)
Clbrting	BOOL	Calibrating – Module is being calibrated when active
Locked	BOOL	Module is locked when active (calibration and configuration can not be changed)
Q1, Q2	BOOL	State of module's physical outputs Q1 and Q2
X1 - X4	BOOL	State of module's physical inputs X1 – X4
Zero	BOOL	Zero – Scale is within the Zero limits
Stable	BOOL	Stable – Scale is stable
GrWeight	REAL	Gross Weight
NtWeight	REAL	Tare Value
TareVal	REAL	Net Weight
NtWeight	REAL	Net Weight
ZeroOff	REAL	Zero Offset
iWtUnits	UINT	Weight Unit Index –Measurement Unit Index (0 = kg; 1 = g; 2 = t; 3 = lb; 4 = oz; 5 = TN)

### ISPUNITS – Measurement Units

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Utility block which can be used with ISPSTS to convert the iWtUint, UINT, output to one of six, BOOL, outputs; one of which will be on, indicating the current measurement units of an ISP Weighing module



#### Inputs

Pin Name	Data Type	Description
iWtUnits	Word	Weight Unit Index, Output from the ISPSTS EFB

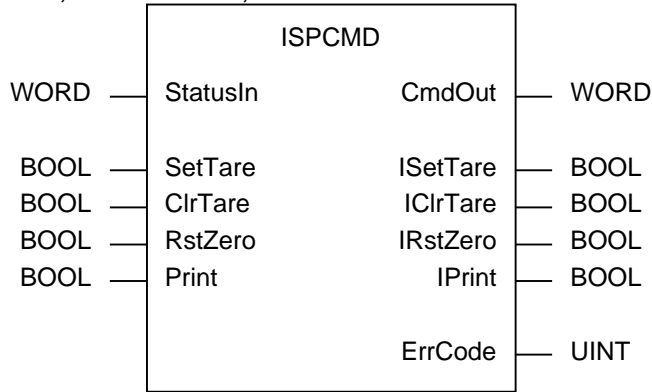
#### Outputs

Pin Name	Data Type	Description
kg	BOOL	Unit in Kilograms
g	BOOL	Unit in grams
t	BOOL	Unit in metric tones
lb	BOOL	Unit in pounds
oz	BOOL	Unit in ounces
TN	BOOL	Unit in Imperial Tons

### ISPCMD – Command Block

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Performs “Set Tare”, “Clear Tare”, “Reset Zero”. And “Print” commands.



#### Inputs

Pin Name	Data Type	Description
StatusIn	Word	Address of first register from module
SetTare	Bool	Set tare Command
ClrTare	Bool	Clear Tare Command
RstZero	Bool	Reset Zero Command
Print	Bool	Print Command

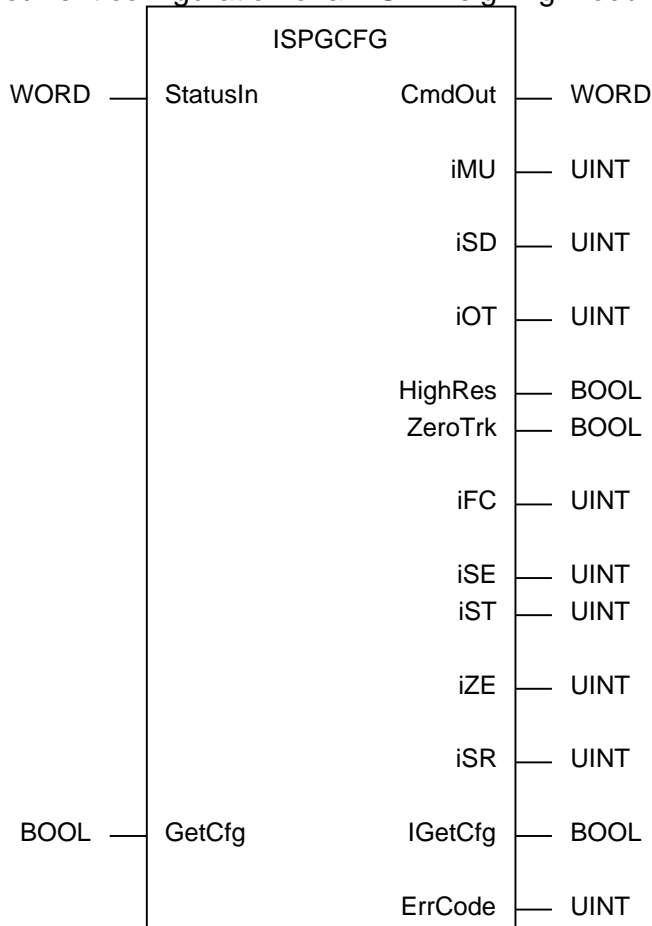
#### Outputs

Pin Name	Data Type	Description
CmdOut	Word	Address of first register to module
ISetTare	Bool	Command Set tare in process
IClrTare	Bool	Command Clear Tare in process
IRstZero	Bool	Command Reset Zero in process
IPrint	Bool	Command Print in process
ErrCode	UNIT	Error Code

### **ISPGCFG – Get Configuration**

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Gets the current configuration of an ISP Weighing Module.



### Inputs

Pin Name	Data Type	Description
StatusIn	Word	Address of first register from module
GetCfg	Bool	Pulse that refreshes the status of the output parameters

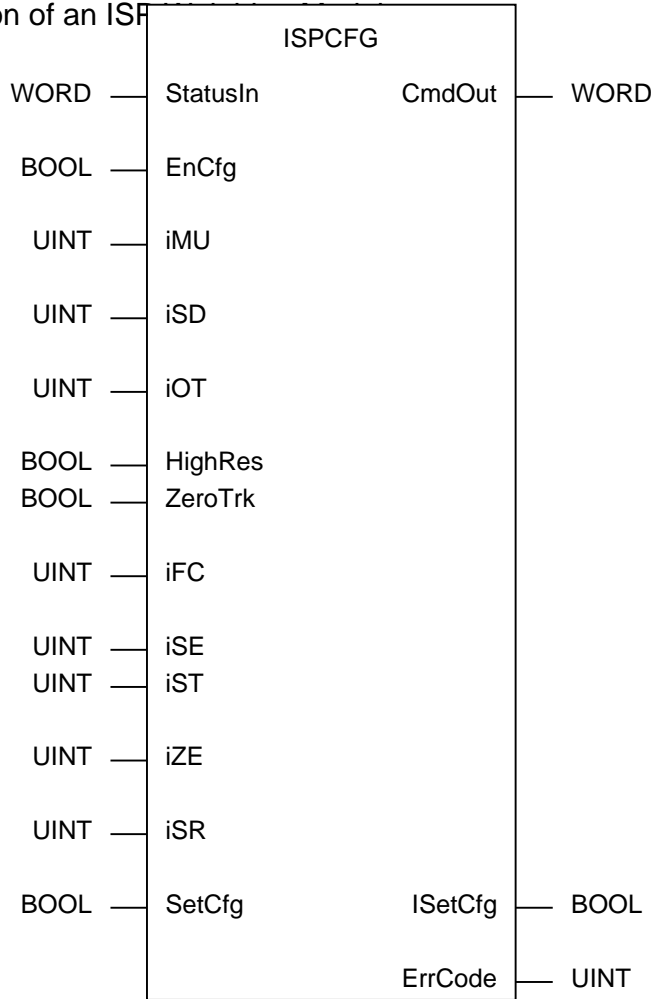
### Outputs

Pin Name	Data Type	Description
CmdOut	Word	Address of first register to module
iMU	UINT	Measurement Units Index
iSD	UINT	Scale division Index
iOT	UINT	Overload threshold
HighRes	BOOL	High Resolution Mode
ZeroTrk	BOOL	Zero Tracking on when active
iFC	UINT	Calibration has been forced when active
iSE	UINT	Stability Extent of Range Index
IST	UINT	Stability Time Index
iZE	UINT	Zero extent of range Index
iSR	UINT	Sample rate Index
IGetCfg	BOOL	Getting Configuration Parameters when active
ErrCode	UINT	Error code- see programm

### **ISPCFG – Set Configuration**

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Sets the configuration of an ISP



### Inputs

Pin Name	Data Type	Description
StatusIn	Word	Address of first register from module
EnCfg	BOOL	Enable Configuration settings when active
iMU	UINT	Measurement Units Index
iSD	UINT	Scale division Index
iOT	UINT	Overload threshold
HighRes	BOOL	High Resolution Mode when active
ZeroTrk	BOOL	Zero Tracking on when active
iFC	UINT	Forced Calibration Index
iSE	UINT	Stability Extent of Range Index
IST	UINT	Stability Time Index
iZE	UINT	Zero extent of range Index
iSR	UINT	Sample rate Index
iGetCfg	BOOL	Getting Configuration when active

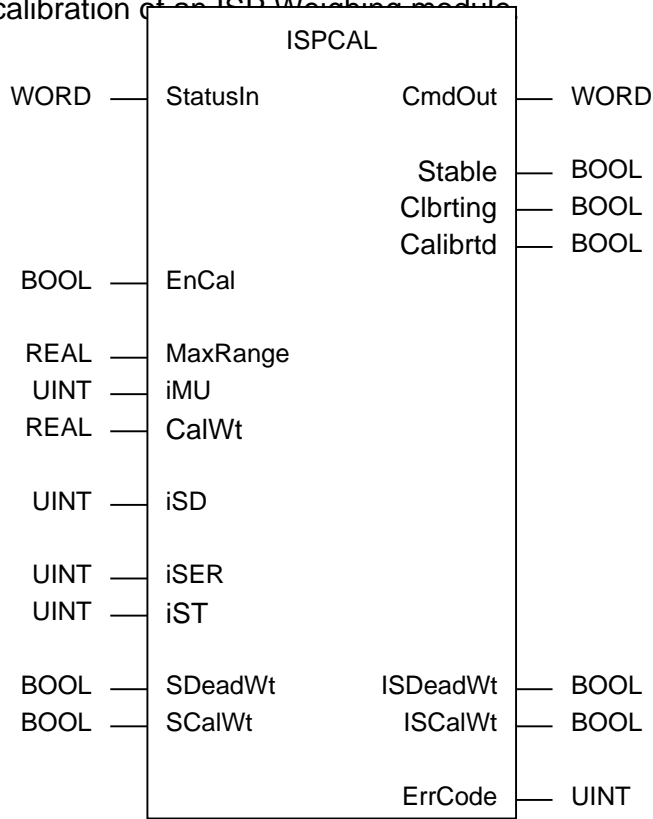
### Outputs

Pin Name	Data Type	Description
CmdOut	Word	Address of first register to module
iSetCfg	BOOL	Setting Configuration when active
ErrCode	UINT	Index error code

### ***ISPCAL – Calibration***

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Performs the calibration of an ISP Weighing module



### Inputs

Pin Name	Data Type	Description
StatusIn	Word	Address of first register from module
EnCal	BOOL	Enable Calibration
MaxRange	REAL	Maximum Range
iMU	UINT	Measurement Unit Index
CalWt	REAL	Calibration Weight – Standard weight used for the calibration
iSD	UINT	Scale Division Index
iSER	UINT	Stability Extent of Range Index
iST	UINT	Stability Time Index
SDeadWt	BOOL	Set Dead Weight – The Set Dead Weight command is executed on the rising edge of this input
SCalWt	BOOL	Set Calibration Weight – The Set Calibration Weight command is executed on the rising edge of this input

### Outputs

Pin Name	Data Type	Description
CmdOut	Word	Address of first register to module
Stable	BOOL	Stable - Indicates Scale is Stable
Clbrting	BOOL	Calibrating
Calibrtd	BOOL	Calibrated
ISDeadWt	BOOL	Set Dead Weight In Progress – Active when the Set Dead Weight command is being processed. When the command is complete this output returns to 0, and the ErrCode output will be 0 if the command was successful.
ISCalWt	BOOL	Set Calibration Weight In Progress – Active when the Set Calibration Weight command is being processed. When the command is complete this output returns to 0, and the ErrCode output will be 0 if the command was successful.
ErrCode	UINT	Error Code – 0 if most recently executed command was successful; 100 if there was no response from the ISP Weighing Module within 90 seconds (Note: Calibration can take up to 60 seconds); or Error Code as reported by ISP Weighing Module (See “ISP Momentum Weighing Programming Guide” for other error codes.

### General Calibration Procedure

The EnCal (Enable Calibration) input must be active (high) in order to execute either the Set Dead Weight or Set Calibration Weight commands. The Set Dead Weight Command must be completed before executing the Set Calibration Weight command. Once the Set Dead Weight command is issued, the Calibrtd (Calibrated) output becomes inactive and the Clbrting (Calibrating) output becomes active, indicating that the module is no longer calibrated and that the calibration process has begun. To complete the calibration process the Set Calibration Command must be performed.

