

FGA E&T Chrysler Powertrain

FGA OEM Blocks Manual
Release 1.5.1

Solutions for Powertrain

TRANSLINE

SIEMENS

Changes index

Date	Change	Comments
18.11.04	New Release 1.0	New Release 1.0
16.02.05	Offline test description is added	New Release 1.1
21.02.05	Tool Wheel management and External applications descriptions are added	New Release 1.2
05.06.05	Stacklight manager description and blocks version are added	New Release 1.3
28.03.06	New FPT version. FC124 and FC125 are added	New Release 1.4
15.07.08	Description of FPT HMI PRO screens are added.	New Release 1.5
22.01.14	Customization for FGA.	New Release 1.5.1



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1 Preamble



Important

This manual is a supplement to the *FGA Engine and Transmission* specifications and it shall help the machine supplier to build its machine according to them. In any case of dispute, the *FGA Engine and Transmission* specifications shall be considered the only valid and official specifications.



Very Important

Before using these OEM blocks check table in **FGA OEM S7 Blocks Projects**.

Objective

In order to standardize the software, in addition to the standard TL2000 blocks, additional OEM blocks have also been developed which are used in the following way.

These OEM blocks are described in this document.

OEM blocks library are available on E-Business site.

Addressee

This present documentation is meant for OEMs using SINUMERIK 840D, SIMODRIVE 611D and SIMATIC S7.

Notes

The following notes with special meaning are used in the document:

Note

This symbol appears in this document whenever further additional facts are stated.



Important

This symbol appears in this document whenever an important issue is to be heeded.



Order data supplement

This symbol refers you to an order data supplement. The function described can only be used if the control system is used with the option specified.

Warning Notes

The following warning notes are used in the document. There are different levels of significance:



Danger

This warning note means that death, grievous bodily harm or considerable damage to property **will** occur if the respective precautions are not taken.



Warning

This warning note means that death, grievous bodily harm or considerable damage to property **may** occur if the respective precautions are not taken.



Caution

This warning note (with a hazard warning triangle) means that slight bodily harm **may** occur if the respective precautions are not taken.

Caution

This warning note (without a hazard warning triangle) means that damage to property **may** occur if the respective precautions are not taken.

Attention

This warning note means that an undesirable event or condition **may** occur if the respective notes are not heeded.

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2 Interconnection

- **General description**

Note

This description refers to HMI PRO interconnection page and PLC block management (FB155).

FB155 is available on E-Business site (**FGA_OEM_Blocks**).

This page is designed to display input/output signals from/to interconnected machines.

On forcing mode it is possible to force input signals from interconnected machines.

MACHINE 1

SIGNAL FROM INTERCONNECTED MACHINE	SIGNAL TO INTERCONNECTED MACHINE
● GANTRY ON	● MACHINE ON
● GANTRY IN AUTO MODE	● MACHINE IN AUTO MODE
● GANTRY EMERGENCY	● MACHINE EMERGENCY
●	● MACHINE INCLUDED IN GANTRY CYCLE
● LOAD FINISHED	● LOAD ENABLE
● UNLOAD FINISHED	● UNLOAD ENABLE
●	● WORKPIECE PRESENT
● WORKPIECE CLAMPED	● WORKPIECE CLAMPED
● WORKPIECE UNCLAMPED	● WORKPIECE UNCLAMPED
● START UNLOADING	● UNLOADING ACCOMPLISHED
● GANTRY SAFE OFF FIXTURE	● MACHINE UNLOADING
● GANTRY SAFE OFF MACHINE	● MACHINE IN MAN.MODE OK FOR G.E.
● GUARDS OPEN ENABLE	● GUARDS OPEN REQUEST
●	● GUARD CLOSED
●	● OVERHEAD DOOR CLOSED
●	●

PART CODE 0 PART CODE 1234

- HMI PRO configuration**

The interconnection page must be always parameterized with the standard values, like the example below:

In the first input field must be introduced the page number (softkey code=Bildnummer).

The left side of the page is expected for the input signals and the right side for the output signals.

- **PLC configuration (FB155)**

Only the input signals and piece code can be forced (left side).

The displaying and forcing mode are executed in the PLC program (FB155).

Attention

The forcing mode must be set only on start-up condition without an interconnected machine.

Example of FB155 parameterization:

```

CALL FB 155 , DB
Act_Force      :=FALSE
Page_Nr        :=71
Page_Index     :=1
Out_1          :=A100.0
Out_2          :=A100.1
Out_3          :=A100.2
Out_4          :=A100.3
Out_5          :=A100.4
Out_6          :=A100.5
Out_7          :=A100.6
Out_8          :=A100.7
Out_9          :=A101.0
Out_10         :=A101.1
Out_11         :=A101.2
Out_12         :=A101.3
Out_13         :=A101.4
Out_14         :=A101.5
Out_15         :=A101.6
Out_16         :=A101.6
Workpiece_Code_Out:=DB109.DBW0
Force_Act      :=M202.0
Alarm          :=MB200
Inp_1          :=E100.0
Inp_2          :=E100.1
Inp_3          :=E100.2
Inp_4          :=E100.3
Inp_5          :=E100.4
Inp_6          :=E100.5
Inp_7          :=E100.6
Inp_8          :=E100.7
Inp_9          :=E101.0
Inp_10         :=E101.1
Inp_11         :=E101.2
Inp_12         :=E101.3
Inp_13         :=E101.4
Inp_14         :=E101.5
Inp_15         :=E101.6
Inp_16         :=E101.7
Workpiece_Code_Inp:=DB108.DBW0
  
```



Where:

Force_Act	0 = only displaying mode, 1 = displaying and forcing mode
Page_Nr	These page number (see field "Bildnummer")
Page_Index	page index
Act_Force	forcing mode is active (without alarms)
Alarm	alarm code (01 = input signals are active)
Inp1...Inp16	These are the 16 interconnection input signals (can be forced and displayed)
Workpiece_Code_Inp	input piece code (can be forced and displayed)
Out1...Out16	These are the 16 interconnection output signals (can be only displayed)
Workpiece_Code_Out	output piece code (can be only displayed)

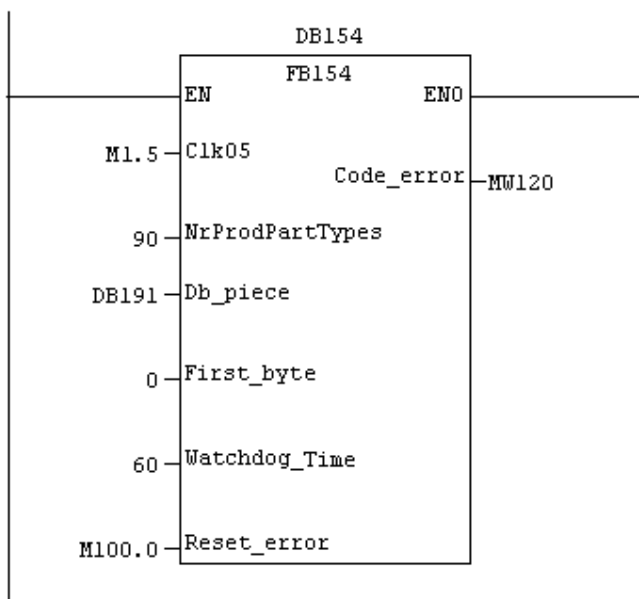
3 FB154 Monitoring system and Workpiece Counter

Note

This description refers to Monitoring system management (FB154).
FB154 is available on E-Business site (**FGA_OEM_Blocks**).

This block is designed to manage monitoring system.

- **Example of PLC parameterization (FB154)**



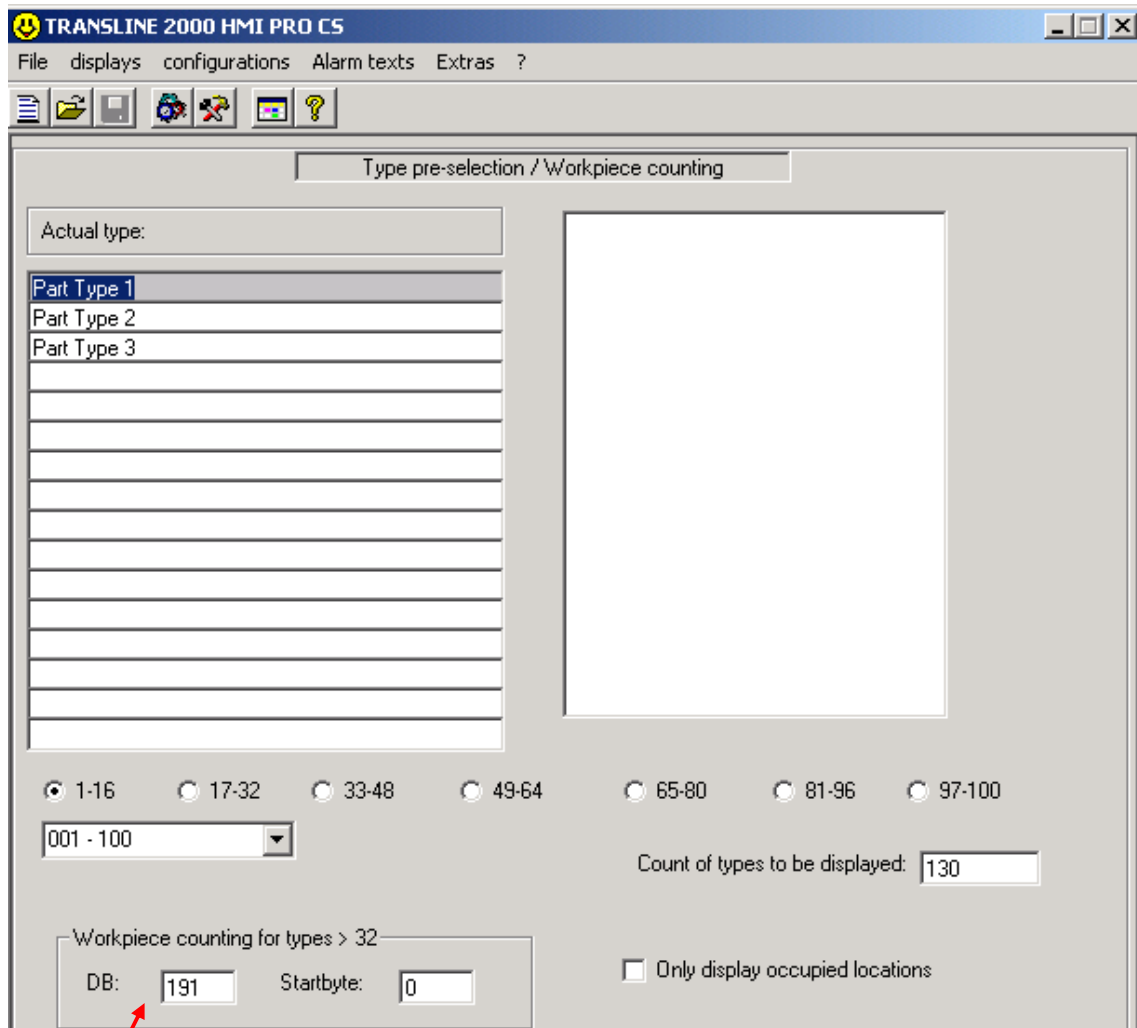
Picture 1: FB154 for Monitoring System

In the PLC program you must create the DB126, DB13 using the UDT126 and UDT13 supplied with the FB154. The *Instanz-DB* (in the example DB154) can be defined from the OEM.

- **Formal Parameters**

Declaration	Signal	Type	Remarks
IN	Clk05	BOOL	Here you have to insert the <i>clock memory bit</i> with <i>Period Duration</i> of 1.0 s (bit x.5). For more details regarding the clock memory bits, please refer to the Step7 manuals or the Online Help.
IN	NrProdPartTypes	INT	Here must be specified the last workpiece number that your machine is able to work. Limit value = 130
IN	Db_Piece	DB	Data block number used in the TL2000 HMI PRO CS for the <i>Workpiece counting for types > 32</i> . (see below: <i>picture 2</i>)
IN	First_Byte	INT	Start byte used in the TL2000 HMI PRO CS for the <i>Workpiece counting for types > 32</i> . (see below: <i>picture 2</i>)
IN	Watchdog_time	INT	Max.watchdog time for PM system and Andon System.
IN	Reset_error	BOOL	Reset error codes (see parameter <i>Code_error</i>)
OUT	Code_error	INT	Error codes: <i>Bit 0</i> = Workpiece type code (DB126.DBB9) is > <i>NrProdPartTypes</i> or < 1 <i>Bit 1</i> = Nominal cycle time in DB13 = 0 The error will be set when the bits Part produced or Reject part are set and the corresponding nominal cycle time is = 0 (see DB13 from DBW610) <i>Bit 2</i> = Watchdog time PM system <i>Bit 3</i> = Watchdog time Andon system

- HMI PRO configuration**



Workpiece counting for types > 32

4 Offline Test

- General description**

Note

This description refers to Offline Test management (FB160).
FB160 is available on E-Business site (**FGA_OEM_Blocks**).

This block is designed to manage Offline Test.

This screen form shall help the operator to know when the part inspection shall be performed.

In this screen form, at least three measurement groups should be simultaneously set by operator.

Check Intervals : Minutes					
Groups	Residual Minutes	Test Interval	Warning		
A				Reset	Q.C. perf.
B				Reset	Q.C. perf.
C				Reset	Q.C. perf.
D				Reset	Q.C. perf.

Definitions

Measurement groups are not part types, but a set of different measurements performed on a single type of part.

Counters shall be set based on "machine cycles" and on time (minutes) by the Tier II supplier (default = minutes, e.g. using a configurable parameter to be set by a function block)

Features

For each measurement group, operator has to set:

the "test interval", i.e. the period after which manual inspection shall be performed. It shall be possible to change the setting only when the associated group is deactivated.

the "warning" value. This setting (within the "test interval") establishes the starting from which the operator can carry out manual inspection on the workpiece for the measurement group concerned. It shall be possible to change the setting only when the associated group is deactivated.

The following features shall be expected:

a) the possibility of activating-deactivating each measurement group. When operator deactivates a group, the counter shall stop at the values that it has reached. If any pre-alarm and/or alarm states are active the deactivation of the group shall be impossible.

The active groups shall appear in green colours, the deactive in white background.

When no measurement group is active, the message " OFF-LINE QUALITY CHECK DEACTIVATED" shall appear in the "Message" video page.

b) a "Reset" function for each group. This softkey shall set the "residual cycles/minutes" counter at the "test interval" value.

Reset of a measurement group shall be possible only when the group is deactivated.

a "Quality check performed" softkey for each group. This softkey shall deactivate any pre-alarm and/or or alarm states together with the associated messages and light signals.

A blue "Quality check performed" hardware pushbutton shall be provided in addition to the screen form function if the point of extraction / introduction parts is far from the desktop (N.B. : the use of this pushbutton is mandatory for transfer machines).

General

The necessary and sufficient conditions for automatically starting counting for each individual group are as follows:

- a) Main switch circuit closed.
- b) "POWER ON" active on the machine main control desk.
- c) Group active.

The "residual cycles" or "residual minutes" counter shall count down from the "test interval" value to zero, then automatically it shall resume count from the "test interval" value, in order to maintain inspection frequency.

Prealarm

The prealarm condition shall be available as output of a standard Tier II function block: it shall be active when the "warning" value is reached.

This contact shall be managed in order that:

the machine continues to operate in auto cycle

the stacklight becomes yellow flash together with green steady sector

the background of the "residual cycle/minutes" field shall assume yellow colour

the message "PERFORM QUALITY CHECK FOR <group name>" shall be displayed

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Alarm

The alarm condition shall be available as output of a standard Tier II function block and shall be placed in the “stop at the end of cycle” PLC chain by OEM.

In addition:

- the stacklight shall become red flash, the green steady sector shall turn off
- the background of the “residual cycle” field shall assume red colour.
- the alarm text "PERFORM QUALITY CHECK FOR <group name> shall be displayed

The alarm condition (normally active when “zero” is reached and the “Quality Check Performed” softkey hasn’t still been pressed) can be set OFF by Tier II supplier.

In this case the machine will never assume the alarm condition and will remain in the prealarm condition until the “Quality Check Performed” softkey will be pressed.

Commands

Command	Implementation	Action
“QUALITY CHECK PERFORMED” CONFIRMATION <i>manual confirmation that workpiece has been inspected</i>	Command performed by a soft key (or by a blue hardware pushbutton if dictated by machine lay-out considerations)	Deactivates any pre-alarm and/or alarm states together with the associated messages and signals..
MEASUREMENT GROUP ACTIVATION <i>inhibits counting for the selected group</i>	Command performed selecting the relevant fields. It shall take effect after pressing a confirmation key.	Active groups have to be shown in green background.
RESET	Command performed by a softkey It shall take effect after pressing a second confirmation key.	Automatically returns counter to its initial settings. Shall be active only when the group is activated.
CHANGE SETTINGS <i>changes test interval and warning settings</i>	Command performed selecting the relevant fields. Shall take effect after pressing a confirmation key.	Used to change the selected test interval or warning setting. Deactivates any pre-alarm and/or alarm states together with the associated messages and signals. Shall be active only when the family is deactivated.

OEM Responsibility

To manage the contact "no measurement group active" in order to set the message " OFF-LINE QUALITY CHECK DEACTIVATED"

To manage the "prealarm condition" contact in order that:

- the machine continues to operate in auto cycle
- the stacklight becomes yellow flash together with green steady sector
- the message "PERFORM QUALITY CHECK FOR <group name>" shall be displayed

To manage the "alarm condition" contact in order that (when it is enabled by Tier II supplier):

- the machine stops at the end of cycle
- the stacklight becomes red flash, the green steady sector turns off
- the alarm text "PERFORM QUALITY CHECK FOR <group name> shall be displayed

- **Example of PLC parameterization (FB160)**

```
CALL FB 160 , DB161
DB_Nr      :=160
Offset     :=0
Power_On   :=M100.1
Time_Cycle :=FALSE
Mute_Alarms:=FALSE
Quality_Check :=M100.2
Clock_Cycle :=M1.5
Deactive_Groups:=M100.3
PreAlarm_Groups:=MB102
Alarm_Groups :=MB103
```

Picture 2: FB160 for Offline Test

The *Instanz-DB* (in the example DB161) and Offline Test DB (DB_Nr in the example DB161 – Important: FB needs 14 words) can be defined from the OEM. In the PLC program you must create the Offline Test DB (you can use a existent DB using offset parameter).

- **Formal Parameters**

Declaration	Signal	Type	Remarks
IN	DB_Nr	INT	Data block number used in PLC.
IN	Offset	INT	Offset of first used word in PLC Data Block.
IN	Power_On	BOOL	Main switch circuit closed and <i>Power On</i> active condition on the machine main control desk.
IN	Time_Cycle	BOOL	Check intervals selection. If Time_Cycle = 0 counters are based on time else they are based on machine cycles.
IN	Mute_Alarms	BOOL	Mute every alarms.
IN	Quality_Check	BOOL	<i>Quality check performed</i> hardware push button.
IN	Clock_Cycle	BOOL	If check intervals selection is time insert the <i>clock memory bit</i> with <i>Period Duration</i> of 1.0s (bit x.5) else cycle executed signal.
OUT	Deactive_Groups	BOOL	All groups are deactivated.
OUT	PreAlarm_Groups	BYTE	Groups in prealarm.
OUT	Alarm_Groups	BYTE	Groups in alarm.

- Offline Test DB

No.	Designation	Siemens S7	Interface
1	Actual Value Group A	DB (DB_Nr), DBW (Offset+0)	S7->OEM
2	Actual Value Group B	DB (DB_Nr), DBW (Offset+2)	S7->OEM
3	Actual Value Group C	DB (DB_Nr), DBW (Offset+4)	S7->OEM
4	Actual Value Group D	DB (DB_Nr), DBW (Offset+6)	S7->OEM
5	Test Interval Value Group A	DB (DB_Nr), DBW (Offset+8)	S7<->OEM
6	Test Interval Value Group B	DB (DB_Nr), DBW (Offset+10)	S7<->OEM
7	Test Interval Value Group C	DB (DB_Nr), DBW (Offset+12)	S7<->OEM
8	Test Interval Value Group D	DB (DB_Nr), DBW (Offset+14)	S7<->OEM
9	Pre-Alarm Value Group A	DB (DB_Nr), DBW (Offset+16)	S7<->OEM
10	Pre-Alarm Value Group B	DB (DB_Nr), DBW (Offset+18)	S7<->OEM
11	Pre-Alarm Value Group C	DB (DB_Nr), DBW (Offset+20)	S7<->OEM
12	Pre-Alarm Value Group D	DB (DB_Nr), DBW (Offset+22)	S7<->OEM
13	Display Status Group A	DB (DB_Nr), DBX (Offset+24.0)	S7->OEM
14	Display Status Group B	DB (DB_Nr), DBX (Offset+24.1)	S7->OEM
15	Display Status Group C	DB (DB_Nr), DBX (Offset+24.2)	S7->OEM
16	Display Status Group D	DB (DB_Nr), DBX (Offset+24.3)	S7->OEM
17	Active/Deactivate Group A	DB (DB_Nr), DBX (Offset+24.4)	OEM->S7
18	Active/Deactivate Group B	DB (DB_Nr), DBX (Offset+24.5)	OEM->S7
19	Active/Deactivate Group C	DB (DB_Nr), DBX (Offset+24.6)	OEM->S7
20	Active/Deactivate Group D	DB (DB_Nr), DBX (Offset+24.7)	OEM->S7
21	Reset Group A	DB (DB_Nr), DBX (Offset+25.0)	OEM->S7
22	Reset Group B	DB (DB_Nr), DBX (Offset+25.1)	OEM->S7
23	Reset Group C	DB (DB_Nr), DBX (Offset+25.2)	OEM->S7
24	Reset Group D	DB (DB_Nr), DBX (Offset+25.3)	OEM->S7
25	Quality Check Group A	DB (DB_Nr), DBX (Offset+25.4)	OEM->S7
26	Quality Check Group B	DB (DB_Nr), DBX (Offset+25.5)	OEM->S7
27	Quality Check Group C	DB (DB_Nr), DBX (Offset+25.6)	OEM->S7
28	Quality Check Group D	DB (DB_Nr), DBX (Offset+25.7)	OEM->S7
29	Pre-Alarm Group A	DB (DB_Nr), DBX (Offset+26.0)	S7->OEM
30	Pre-Alarm Group B	DB (DB_Nr), DBX (Offset+26.1)	S7->OEM
31	Pre-Alarm Group C	DB (DB_Nr), DBX (Offset+26.2)	S7->OEM
32	Pre-Alarm Group D	DB (DB_Nr), DBX (Offset+26.3)	S7->OEM
33	Alarm Group A	DB (DB_Nr), DBX (Offset+26.4)	S7->OEM
34	Alarm Group B	DB (DB_Nr), DBX (Offset+26.5)	S7->OEM
35	Alarm Group C	DB (DB_Nr), DBX (Offset+26.6)	S7->OEM
36	Alarm Group D	DB (DB_Nr), DBX (Offset+26.7)	S7->OEM
37	Check Interval Selection	DB (DB_Nr), DBX (Offset+27.0)	S7->OEM
	PushButton +	DB59.DBX2920.0	
	PushButton -	DB59.DBX2920.1	

5 Tool Wheel management

- **General description**

Note

This description refers to Tool Wheel management page.

This page is intended as operator support of the specific Tier II level supplier software for the management of the tools (typically used for Machining centers, ...).

We provide the example of the essential contents by the video screen below:

Tool Storehouse				
T.No	Tool Name	Warning	Alarm	
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

-
+

T.No	Tool Name	Warning	Alarm
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			

Spindle

Tool Name	Warning	Alarm

Definitions

a) T.No (Tool position on the wheel)

Such column represents the physical position of the tool on the wheel (normally identified by a tag on the tool seat) . The maximum number of position is 31.

b) Tool name

Where an empty box is displayed it means that can be placed either an external tool or the tool present into spindle.

c) Warning

This box shall turn into yellow when the tool reaches the prealarm threshold.

d) Alarm

This box shall turn into red when the tool reaches the alarm threshold.

e) Spindle

In this field are represented all details written above, but referred to the tool present into the spindle.

Features

Tool loading/unloading

It will be possible to select a field by means of arrows softkeys on the HMI keyboard.

By means of lateral softkeys a tool can be:

- a) loaded to wheel
- b) downloaded from the wheel
- c) loaded from wheel to spindle
- d) downloaded from spindle to wheel

All conditions above are to be checked by PLC whether feasible or not in order to avoid crashes.

General

Use FC8 (Transfer for Tool management) to move tool from wheel to spindle and vice versa.

• **Tool Storehouse DB**

No.	Designation	Siemens S7	Interface
1	Command +	DB, DBX 0.0	OEM->S7
2	Command -	DB, DBX 0.1	OEM->S7
3	Tool selected on the wheel	DB, DBB 1	OEM->S7
4	Tool T selected	DB, DBB 2	OEM->S7
	PushButton +	DB59.DBX2920.0	
	PushButton -	DB59.DBX2920.1	



6 External applications

- **General description**

Note

This description refers to external application integration in HMI PRO.
OCX_Oem.dll and OCX_Oem.cfg are available on E-Business site (TL2000 templates)

The function External Ocx provides the option for linking your own applications into HMI PRO in the form of OCX files. The following requirements must be satisfied:

- a) The applications must contain defined external interfaces.
- b) The applications must contain a return function for HMI PRO in order to be able to return to HMI PRO
- c) All integrated applications must be registered on the target device. (call regsvr32 <ApplicationName>.ocx)
- d) At the time of transfer to the target system, all applications used must be located in the directory of the source project.

When the external application is finished, the last screen form accessed before the application was selected appears again.

An external application includes interface functions which can be used to implement language switchover as well as the protection levels.

- **OCX OEM (OCX_Oem.dll)**

Integrate external applications

	Interface (I.ClassName)	Screenform name
1	OCX_Oem.Class1	Operator prompting Oem
2	OCX_Oem.Class1	Moby info Oem
3	OCX_Oem.Class1	Old Offline Oem
4	OCX_Oem.Class1	Unit status Oem
5	OCX_Oem.Class1	Offline Oem
6	OCX_Oem.Class1	Tool storehouse Oem
7		
8		
9		
10		

In the function key screen, external applications defined here will be accepted into the list box of the HMI screenforms.

OCX_Oem.dll is a special FGP OEM integrated external application.

This OCX can manage six special screenforms:

- a) Operator prompting Oem
- b) Moby info Oem
- c) Old Offline Oem (it is not allowed)
- d) Unit status Oem
- e) Offline Oem
- f) Tool storehouse Oem

Operator prompting OEM, Moby info OEM, Unit Status OEM, Offline OEM replace standard HMI PRO screenform.

It reads configuration data from OCX_Oem.cfg file.

- OCX OEM configuration data (OCX_Oem.cfg)

OCX_Oem.cfg	Description
[OperatorHelp] Softkey=36 DB_data=81 Byte_Description=0 Byte_Code=192 Byte_Drawing=208 No_Rows=10 Drawing_ASCII=1 Lbl_Drawing_it=Disegno Lbl_Drawing_uk=Drawing Lbl_Drawing_gr=Zeichnung Lbl_Drawing_fr=Plan Lbl_Drawing_sp=Plano Lbl_Drawing_PL=Rysunku PassWord=SUNRISE	Operator prompting Oem configuration Softkey is the Oem coordinate on function keys matrix DB_data is the number of interface DB Byte_Description is the first byte of all Descriptions on interface DB Byte_Code is the first byte of all Codes on interface DB Byte_Drawing is the first byte of Drawing texts on interface DB No_Rows is the number of displayed rows Drawing_ASCII is the ASCII display mode selection of drawing codes Italian text English text German Text French text Spanish text Polish Text Operator Password
[MobyInfo] Softkey=51 DBNr=59 StartByte=10 PassWord=SUNRISE	Moby info Oem configuration Softkey is the Oem coordinate on function keys matrix Number of interface DB Offset of first byte data (16 bytes) User Password
[OldOfflineTest] Softkey=99	Old Offline Oem configuration (it is not allowed)
[StationStatus] Softkey=33	Unit status Oem configuration Softkey is the Oem coordinate on function keys matrix
[NewOfflineTest] Softkey=27 DB_data=160 Offset_Word=0	Offline Oem configuration Softkey is the Oem coordinate on function keys matrix DB_data is the number of interface DB Offset_Word is the offset of the first byte data



Powertrain

Lbl_Title8_sp=Q.C. perf. Lbl_Title9_sp=PW level required Lbl_Title10_sp=Confirm using + Lbl_Title0_pl=spawdzenie okresowe Lbl_Title1_pl=cykle Lbl_Title2_pl=minuty Lbl_Title3_pl=pozstaly Lbl_Title4_pl=test okresowy Lbl_Title5_pl=ostrzezenie Lbl_Title6_pl=grupy Lbl_Title7_pl=Reset Lbl_Title8_pl=ktr.jakosci Lbl_Title9_pl=wymagany poziom dostepu Lbl_Title10_pl=potwierdz przy uzyciu + Lev_edit =7	<i>Spanish texts</i> <i>Lev_edit is the minimum access authorization to allow modify values</i>
[ToolStorehouse] Softkey=32 DB_TS=161 Lbl_Title0_it=Magazzino Utensili Lbl_Title1_it=P.M. Lbl_Title2_it=Nome Utensile Lbl_Title3_it=Preall. Lbl_Title4_it=Allarme Lbl_Title5_it=Mandrino Lbl_Title6_it=Liv. PW richiesto	<i>Tool Storehouse Oem configuration</i> <i>Softkey is the Oem coordinate on function keys matrix</i> <i>DB_TS is the number of interface DB</i> <i>Italian texts</i>
Lbl_Title0_uk=Tool Storehouse Lbl_Title1_uk=T.No Lbl_Title2_uk=Tool Name Lbl_Title3_uk=Warning Lbl_Title4_uk=Alarm Lbl_Title5_uk=Spindle Lbl_Title6_uk=PW level required	<i>English texts</i>
Lbl_Title0_gr=Werkzeugmagazin Lbl_Title1_gr=WSNr Lbl_Title2_gr=Werkzeugname Lbl_Title3_gr=Voral. Lbl_Title4_gr=Alarm Lbl_Title5_gr=Spindel Lbl_Title6_gr=Gef.Zugriffstufe	<i>German texts</i>
Lbl_Title0_fr=Tool Storehouse Lbl_Title1_fr=T.No Lbl_Title2_fr=Tool Name Lbl_Title3_fr=Warning Lbl_Title4_fr=Alarm Lbl_Title5_fr=Spindle Lbl_Title6_fr=PW level required Lbl_Title0_sp=Tool Storehouse Lbl_Title1_sp=T.No Lbl_Title2_sp=Tool Name	<i>French texts</i> <i>Spanish texts</i>



Powertrain

Lbl_Title3_sp=Warning Lbl_Title4_sp=Alarm Lbl_Title5_sp=Spindle Lbl_Title6_sp=PW level required Lbl_Title0_pl=magazyn narzedzi Lbl_Title1_pl=numer Lbl_Title2_pl=nazwa narzedzia Lbl_Title3_pl=ostrzez. Lbl_Title4_pl=alarm Lbl_Title5_pl=wrzeciono Lbl_Title6_pl=wymagany poziom dostepu No_Tools=31 Lev_edit =7	<i>Polish texts</i> <i>No_Tools is the number of tools on the wheel</i> <i>Lev_edit is the minimum access authorization to allow move tools</i>
---	---

Other informations are read from HMI PRO system files (Bedhilfe.ini, Hmi_XX.txt).

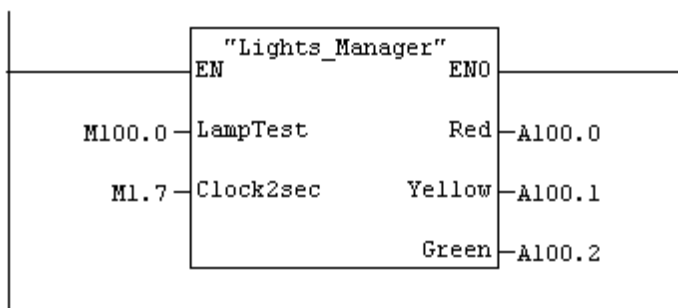
7 Stacklight manager

Note

This description refers to Stacklight manager (FC127 – it is allowed to rename it).
FC127 is available on E-Business site (**FGA_OEM_Blocks**).

This block is designed to manage Stacklight.

- **Example of PLC parameterization (FC127 –it is allowed to rename it)**



Picture 2: FC127 for Stacklight manager

This block reads machine status from DB126/DB59.

It is allowed to rename it.



- **Formal Parameters**

Declaration	Signal	Type	Remarks
IN	LampTest	BOOL	<i>Lamp Test</i> hardware push button
IN	Clock2s	BOOL	Here you have to insert the <i>clock memory bit</i> with <i>Period Duration</i> of 2.0 s (bit x.7). For more details regarding the clock memory bits, please refer to the Step7 manuals or the Online Help.
OUT	Red	BOOL	Signal to manage the red lamp
OUT	Yellow	BOOL	Signal to manage the yellow lamp
OUT	Green	BOOL	Signal to manage the green lamp



8 FPT HMI PRO screens

Note

This description refers to HMI PRO screens designed in order to follow FGA E&T specifications.

HMI PRO screens designed in order to follow FPT specifications are:

- Presses Screen
- Station Status Screen (OEM)
- Operator Help Screen (OEM)
- Virtual Moby (OEM)

- Presses Screen

This screen is designed to display Presses values.

Presses	Load value		Stroke value	
Press 1	0.00 KN	0.00 KN (Max) 0.00 KN (Min)	0.000 mm	0.000 mm (Max) 0.000 mm (Min)
Press 2	0.00 KN	0.00 KN (Max) 0.00 KN (Min)	0.000 mm	0.000 mm (Max) 0.000 mm (Min)
Press 3	0.00 KN	0.00 KN (Max) 0.00 KN (Min)	0.000 mm	0.000 mm (Max) 0.000 mm (Min)
Press 4	0.00 KN	0.00 KN (Max) 0.00 KN (Min)	0.000 mm	0.000 mm (Max) 0.000 mm (Min)
Press 5	0.00 KN	0.00 KN (Max) 0.00 KN (Min)	0.000 mm	0.000 mm (Max) 0.000 mm (Min)
Press 6	0.00 KN	0.00 KN (Max) 0.00 KN (Min)	0.000 mm	0.000 mm (Max) 0.000 mm (Min)
Press 7	0.00 KN	0.00 KN (Max) 0.00 KN (Min)	0.000 mm	0.000 mm (Max) 0.000 mm (Min)
Press 8	0.00 KN	0.00 KN (Max) 0.00 KN (Min)	0.000 mm	0.000 mm (Max) 0.000 mm (Min)

Nut.runn.ov.	Nut.runn.c.	Stat.Status	Des.group	Repair isl.	Operat.help	Presses ov.	Group ack.
Overview	Process	Periphery	Man.funct.	Interconn.	Diagnostic	Syst.funct.	Help

This screen is made using a "Layout, variable" screen form.

Moving the screen with Shift + mouse.
Function keys

Horizontal function keys
Select:
Start screen:
2. Horizontal function keys

Cycle types	St.up cond.	Layout ov.				SW version	Group ack.	Overview
P.Type sel.	Part count.	Cycle times					Group ack.	Process
Nut.runn.ov.	Nut.runn.c.	Stat.Status	Des.group	Repair isl.	Operat.help	Presses ov.	Group ack.	Periphery
Override	Setting-up 1						Group ack.	Man.funct.
Moby info	Interconn. 1	Interconn. 2					Group ack.	Interconn.
Alarm		Prof.diag.					Group ack.	Diagnostic
History	PLC/NC St.	Language	Alhmi.com	Failure Log	Efficiency d.	Other Funct.	Group ack.	Syst.funct.
Help 1	Help 2	Help 3	Help 4	Help 5	Help 6	Message	Group ack.	Help

New screen form:
HMI screen forms:

- External OCX
- Group Deselection
- Interface
- Internet
- Language
- Layout
- Layout, variable

☐ Own help for Layout, variable (37)

Help file:
Entry:
Title:

Protection levels for Layout, variable (37)

Screen selection:
Change data:
-Not used-

This screen is made using a "Layout, variable" screen form.

Presses	Load value	Stroke value
Press 1	O-field KN O-field KN (Max) O-field KN (Min)	O-field mm O-field mm (Max) O-field mm (Min)
Press 2	O-field KN O-field KN (Max) O-field KN (Min)	O-field mm O-field mm (Max) O-field mm (Min)
Press 3	O-field KN O-field KN (Max) O-field KN (Min)	O-field mm O-field mm (Max) O-field mm (Min)
Press 4	O-field KN O-field KN (Max) O-field KN (Min)	O-field mm O-field mm (Max) O-field mm (Min)
Press 5	O-field KN O-field KN (Max) O-field KN (Min)	O-field mm O-field mm (Max) O-field mm (Min)
Press 6	O-field KN O-field KN (Max) O-field KN (Min)	O-field mm O-field mm (Max) O-field mm (Min)
Press 7	O-field KN O-field KN (Max) O-field KN (Min)	O-field mm O-field mm (Max) O-field mm (Min)
Press 8	O-field KN O-field KN (Max) O-field KN (Min)	O-field mm O-field mm (Max) O-field mm (Min)

☐ Activate elements via PLC
 DB Byte
☐ Read/write data
 DB Byte
☐ Active I/O field index in PLC
 DB Word
☐ local MUX ☐ local Constant

PLC interface is customizable using "Local MUX" %%P00 and %%P01.

%%P00 is number of selected DB and %%P01 is the offset:

e.g. %%P00 = 161

%%P01 = 0

Interface PLC starts from DB161.DBB0

Multiplex variables - Definition

Address:

%%P00

%%P01

Presses	Load value	Stroke value
Press 1 Text abcd	O-DBD KN O-DBD KN (Max) O-DBD KN (Min)	O-DBD mm O-DBD mm (Max) O-DBD mm (Min)
Press 2	O-DBD KN O-DBD KN (Max) O-DBD KN (Min)	O-DBD mm O-DBD mm (Max) O-DBD mm (Min)
Press 3	O-DBD KN O-DBD KN (Max) O-DBD KN (Min)	O-DBD mm O-DBD mm (Max) O-DBD mm (Min)
Press 4	O-DBD KN O-DBD KN (Max) O-DBD KN (Min)	O-DBD mm O-DBD mm (Max) O-DBD mm (Min)
Press 5	O-DBD KN O-DBD KN (Max) O-DBD KN (Min)	O-DBD mm O-DBD mm (Max) O-DBD mm (Min)
Press 6	O-DBD KN O-DBD KN (Max) O-DBD KN (Min)	O-DBD mm O-DBD mm (Max) O-DBD mm (Min)
Press 7	O-DBD KN O-DBD KN (Max) O-DBD KN (Min)	O-DBD mm O-DBD mm (Max) O-DBD mm (Min)
Press 8	O-DBD KN O-DBD KN (Max) O-DBD KN (Min)	O-DBD mm O-DBD mm (Max) O-DBD mm (Min)

☐ Activate elements via PLC
☐ Read/write data
☐ Active I/O field index in PLC
Local MUX
Local constants
Overview of element properties

Edit Arrows LEDs Images Texts I/O field bar Table Curve Internet
Screen on softkey: Arrow color Width 2
LED configuration: Text Symbols
LED display: Bit status 0 Bit status 1
softkeys left softkeys right Status 0 Status 1 Grid
Element properties: Type: Texts (50) Name: Name Layer: 1 Visible
LED bit:

Name of Presses are customizable editing texts of Texts (50) to Texts (57).

Presses	Load value	Stroke value
Press 1	O-DBD KN O-DBD KN (Max) O-DBD KN (Min)	O-DBD mm O-DBD mm (Max) O-DBD mm (Min)
Press 2	O-DBD KN O-DBD KN (Max) O-DBD KN (Min)	O-DBD mm O-DBD mm (Max) O-DBD mm (Min)
Press 3	O-DBD KN O-DBD KN (Max) O-DBD KN (Min)	O-DBD mm O-DBD mm (Max) O-DBD mm (Min)
Press 4	O-DBD KN O-DBD KN (Max) O-DBD KN (Min)	O-DBD mm O-DBD mm (Max) O-DBD mm (Min)
Press 5	O-DBD KN O-DBD KN (Max) O-DBD KN (Min)	O-DBD mm O-DBD mm (Max) O-DBD mm (Min)
Press 6	O-DBD KN O-DBD KN (Max) O-DBD KN (Min)	O-DBD mm O-DBD mm (Max) O-DBD mm (Min)
Press 7	O-DBD KN O-DBD KN (Max) O-DBD KN (Min)	O-DBD mm O-DBD mm (Max) O-DBD mm (Min)

☐ Activate elements via PLC
☐ Read/write data
☐ Active I/O field index in PLC
Local MUX
Local constants
Overview of element properties

Edit Arrows LEDs Images Texts I/O field bar Table Curve Internet
Screen on softkey: Arrow color Width 2
LED configuration: Text Symbols
LED display: Bit status 0 Bit status 1
softkeys left softkeys right Status 0 Status 1 Grid
Element properties: Type: Texts (52) Name: Name Layer: 1 Visible
LED bit:

If less of 8 Pressed are used:

- Delete unnecessary objects for each undesired press (each Press row is composed by 7 texts + I/O fields + 5 LEDs + 2 bars + 1 Arrows)
- Change Height property of Texts (51) to Texts (53) : value = 50 x displayed presses (e.g. 7 displayed presses: Height=350)

- PLC interface

DB	Address	Type	Format	Remarks
%%P00	%%P01 + 0	DoubleWord	Float	Load value Press 1
%%P00	%%P01 + 4	DoubleWord	Float	Load value Press 1 limit +
%%P00	%%P01 + 8	DoubleWord	Float	Load value Press 1 limit -
%%P00	%%P01 + 12	DoubleWord	Float	Stroke value Press 1
%%P00	%%P01 + 16	DoubleWord	Float	Stroke value Press 1 limit +
%%P00	%%P01 + 20	DoubleWord	Float	Stroke value Press 1 limit -
%%P00	%%P01 + 24.0	Bit	Bool	Status Press 1 Good
%%P00	%%P01 + 24.1	Bit	Bool	Status Press 1 Reject
%%P00	%%P01 + 24.2	Bit	Bool	Status Press 1 Reject Power Limit +
%%P00	%%P01 + 24.3	Bit	Bool	Status Press 1 Reject Power Limit -
%%P00	%%P01 + 24.4	Bit	Bool	Status Press 1 Reject Length Limit +
%%P00	%%P01 + 24.5	Bit	Bool	Status Press 1 Reject Length Limit -
%%P00	%%P01 + 26	DoubleWord	Float	Load value Press 2
%%P00	%%P01 + 30	DoubleWord	Float	Load value Press 2 limit +
%%P00	%%P01 + 34	DoubleWord	Float	Load value Press 2 limit -
%%P00	%%P01 + 38	DoubleWord	Float	Stroke value Press 2
%%P00	%%P01 + 42	DoubleWord	Float	Stroke value Press 2 limit +
%%P00	%%P01 + 46	DoubleWord	Float	Stroke value Press 2 limit -
%%P00	%%P01 + 50.0	Bit	Bool	Status Press 2 Good
%%P00	%%P01 + 50.1	Bit	Bool	Status Press 2 Reject
%%P00	%%P01 + 50.2	Bit	Bool	Status Press 2 Reject Power Limit +
%%P00	%%P01 + 50.3	Bit	Bool	Status Press 2 Reject Power Limit -
%%P00	%%P01 + 50.4	Bit	Bool	Status Press 2 Reject Length Limit +
%%P00	%%P01 + 50.5	Bit	Bool	Status Press 2 Reject Length Limit -
%%P00	%%P01 + 52	DoubleWord	Float	Load value Press 3
%%P00	%%P01 + 56	DoubleWord	Float	Load value Press 3 limit +
%%P00	%%P01 + 60	DoubleWord	Float	Load value Press 3 limit -
%%P00	%%P01 + 64	DoubleWord	Float	Stroke value Press 3
%%P00	%%P01 + 68	DoubleWord	Float	Stroke value Press 3 limit +
%%P00	%%P01 + 72	DoubleWord	Float	Stroke value Press 3 limit -
%%P00	%%P01 + 76.0	Bit	Bool	Status Press 3 Good
%%P00	%%P01 + 76.1	Bit	Bool	Status Press 3 Reject
%%P00	%%P01 + 76.2	Bit	Bool	Status Press 3 Reject Power Limit +
%%P00	%%P01 + 76.3	Bit	Bool	Status Press 3 Reject Power Limit -
%%P00	%%P01 + 76.4	Bit	Bool	Status Press 3 Reject Length Limit +
%%P00	%%P01 + 76.5	Bit	Bool	Status Press 3 Reject Length Limit -



Powertrain

DB	Address	Type	Format	Remarks
%%P00	%%P01 + 78	DoubleWord	Float	Load value Press 4
%%P00	%%P01 + 82	DoubleWord	Float	Load value Press 4 limit +
%%P00	%%P01 + 86	DoubleWord	Float	Load value Press 4 limit -
%%P00	%%P01 + 90	DoubleWord	Float	Stroke value Press 4
%%P00	%%P01 + 94	DoubleWord	Float	Stroke value Press 4 limit +
%%P00	%%P01 + 98	DoubleWord	Float	Stroke value Press 4 limit -
%%P00	%%P01 + 102.0	Bit	Bool	Status Press 4 Good
%%P00	%%P01 + 102.1	Bit	Bool	Status Press 4 Reject
%%P00	%%P01 + 102.2	Bit	Bool	Status Press 4 Reject Power Limit +
%%P00	%%P01 + 102.3	Bit	Bool	Status Press 4 Reject Power Limit -
%%P00	%%P01 + 102.4	Bit	Bool	Status Press 4 Reject Length Limit +
%%P00	%%P01 + 102.5	Bit	Bool	Status Press 4 Reject Length Limit -
%%P00	%%P01 + 104	DoubleWord	Float	Load value Press 5
%%P00	%%P01 + 108	DoubleWord	Float	Load value Press 5 limit +
%%P00	%%P01 + 112	DoubleWord	Float	Load value Press 5 limit -
%%P00	%%P01 + 116	DoubleWord	Float	Stroke value Press 5
%%P00	%%P01 + 120	DoubleWord	Float	Stroke value Press 5 limit +
%%P00	%%P01 + 124	DoubleWord	Float	Stroke value Press 5 limit -
%%P00	%%P01 + 128.0	Bit	Bool	Status Press 5 Good
%%P00	%%P01 + 128.1	Bit	Bool	Status Press 5 Reject
%%P00	%%P01 + 128.2	Bit	Bool	Status Press 5 Reject Power Limit +
%%P00	%%P01 + 128.3	Bit	Bool	Status Press 5 Reject Power Limit -
%%P00	%%P01 + 128.4	Bit	Bool	Status Press 5 Reject Length Limit +
%%P00	%%P01 + 128.5	Bit	Bool	Status Press 5 Reject Length Limit -
%%P00	%%P01 + 130	DoubleWord	Float	Load value Press 6
%%P00	%%P01 + 134	DoubleWord	Float	Load value Press 6 limit +
%%P00	%%P01 + 138	DoubleWord	Float	Load value Press 6 limit -
%%P00	%%P01 + 142	DoubleWord	Float	Stroke value Press 6
%%P00	%%P01 + 146	DoubleWord	Float	Stroke value Press 6 limit +
%%P00	%%P01 + 150	DoubleWord	Float	Stroke value Press 6 limit -
%%P00	%%P01 + 154.0	Bit	Bool	Status Press 6 Good
%%P00	%%P01 + 154.1	Bit	Bool	Status Press 6 Reject
%%P00	%%P01 + 154.2	Bit	Bool	Status Press 6 Reject Power Limit +
%%P00	%%P01 + 154.3	Bit	Bool	Status Press 6 Reject Power Limit -
%%P00	%%P01 + 154.4	Bit	Bool	Status Press 6 Reject Length Limit +
%%P00	%%P01 + 154.5	Bit	Bool	Status Press 6 Reject Length Limit -



DB	Address	Type	Format	Remarks
%%P00	%%P01 + 156	DoubleWord	Float	Load value Press 7
%%P00	%%P01 + 160	DoubleWord	Float	Load value Press 7 limit +
%%P00	%%P01 + 164	DoubleWord	Float	Load value Press 7 limit -
%%P00	%%P01 + 168	DoubleWord	Float	Stroke value Press 7
%%P00	%%P01 + 172	DoubleWord	Float	Stroke value Press 7 limit +
%%P00	%%P01 + 176	DoubleWord	Float	Stroke value Press 7 limit -
%%P00	%%P01 + 180.0	Bit	Bool	Status Press 7 Good
%%P00	%%P01 + 180.1	Bit	Bool	Status Press 7 Reject
%%P00	%%P01 + 180.2	Bit	Bool	Status Press 7 Reject Power Limit +
%%P00	%%P01 + 180.3	Bit	Bool	Status Press 7 Reject Power Limit -
%%P00	%%P01 + 180.4	Bit	Bool	Status Press 7 Reject Length Limit +
%%P00	%%P01 + 180.5	Bit	Bool	Status Press 7 Reject Length Limit -
%%P00	%%P01 + 182	DoubleWord	Float	Load value Press 8
%%P00	%%P01 + 186	DoubleWord	Float	Load value Press 8 limit +
%%P00	%%P01 + 190	DoubleWord	Float	Load value Press 8 limit -
%%P00	%%P01 + 194	DoubleWord	Float	Stroke value Press 8
%%P00	%%P01 + 198	DoubleWord	Float	Stroke value Press 8 limit +
%%P00	%%P01 + 202	DoubleWord	Float	Stroke value Press 8 limit -
%%P00	%%P01 + 206.0	Bit	Bool	Status Press 8 Good
%%P00	%%P01 + 206.1	Bit	Bool	Status Press 8 Reject
%%P00	%%P01 + 206.2	Bit	Bool	Status Press 8 Reject Power Limit +
%%P00	%%P01 + 206.3	Bit	Bool	Status Press 8 Reject Power Limit -
%%P00	%%P01 + 206.4	Bit	Bool	Status Press 8 Reject Length Limit +
%%P00	%%P01 + 206.5	Bit	Bool	Status Press 8 Reject Length Limit -

%%P00 and %%P01 are defined in "Local Constants" of Hmi Pro screen.

Load values are displayed as float xx.yy format.

Stroke values are displayed as float xxx.yyy format.

- **Station Status Screen (OEM)**

This screen for the assembly lines represents the most important descriptive data of a workpiece being presently machined, and the current status of the machining station. It cannot be edited.

Operation

Pallet number :
 Serial number :
 Part Short code :
 Part number :
 End of work :

Group / Status	Alarm	Pre-alarm	Auto	Manual	Cancel	Init.setting
Station						
Alignment						
Robot						

This screen is made using a External Ocx - VB screen form.

In order to integrate/move it in Hmi Pro project, read "External Applications" chapter in this document.

- **PLC interface**

DB	Address	Type	Format	Remarks
DB_data	Offset_Word + 0 Offset_Word + 1 Offset_Word + 2 Offset_Word + 3 Offset_Word + 4	Byte	Char	Operation
DB_data	Offset_Word + 5	Word	Hex	Pallet number
DB_data	Offset_Word + 7	DoubleWord	Hex	Serial number
DB_data	Offset_Word + 11 Offset_Word + 12 Offset_Word + 13 Offset_Word + 14	Byte	Char	Part short code
DB_data	Offset_Word + 15 Offset_Word + 16 Offset_Word + 17 Offset_Word + 18 Offset_Word + 19 Offset_Word + 20 Offset_Word + 21 Offset_Word + 22 Offset_Word + 23 Offset_Word + 24 Offset_Word + 25 Offset_Word + 26 Offset_Word + 27 Offset_Word + 28 Offset_Word + 29	Byte	Char	Part number
DB_data	Offset_Word + 30 Offset_Word + 31 Offset_Word + 32 Offset_Word + 33 Offset_Word + 34 Offset_Word + 35	Byte	Char	End od work

DB	Address	Type	Format	Remarks
DB_data	Offset_Word + 36.0 Offset_Word + 36.3 Offset_Word + 36.6 Offset_Word + 37.1 Offset_Word + 37.4 Offset_Word + 37.7	Bit	Bool	Station Alarm Station Pre-Alarm Station Auto Station Manual Station Cancel Station Init.Setting
DB_data	Offset_Word + 36.1 Offset_Word + 36.4 Offset_Word + 36.7 Offset_Word + 37.2 Offset_Word + 37.5 Offset_Word + 38.0	Bit	Bool	Alignment Alarm Alignment Pre-Alarm Alignment Auto Alignment Manual Alignment Cancel Alignment Init.Setting
DB_data	Offset_Word + 36.2 Offset_Word + 36.5 Offset_Word + 37.0 Offset_Word + 37.3 Offset_Word + 37.6 Offset_Word + 38.1	Bit	Bool	Robot Alarm Robot Pre-Alarm Robot Auto Robot Manual Robot Cancel Robot Init.Setting

DB_data and Offset_word are defined in OCX_Oem.cfg (NewStationStatus section); read "External Applications" chapter in this document.

e.g. OCX_Oem.cfg

[NewStationStatus]
Softkey=33
DB_data=160
Offset_Word=0

- **Operator Help Screen (OEM)**

This screen for the assembly lines represents the most important descriptive data of a workpiece being presently machined, and the current status of the machining station. It cannot be edited.

No	Part description	Short Code	Part number
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

-

Serial number

00000000

Pallet number

0000

+

Operator code

Press the Plus key to accept re-input of operator key

This screen is made using a External Ocx - VB screen form.

In order to integrate/move or parameterized it in Hmi Pro project, read "External Applications" chapter in this document.

- **PLC interface**

DB	Address	Type	Format	Remarks
DB_data	Byte_Description To Byte_Description + 19	Byte	Char /Hex	Part description 1
DB_data	Byte_Description + 20 To Byte_Description + 39	Byte	Char /Hex	Part description 2
DB_data	Byte_Description + 40 To Byte_Description + 59	Byte	Char /Hex	Part description 3
DB_data	Byte_Description + 60 To Byte_Description + 79	Byte	Char /Hex	Part description 4
DB_data	Byte_Description + 80 To Byte_Description + 99	Byte	Char /Hex	Part description 5
DB_data	Byte_Description + 100 To Byte_Description + 119	Byte	Char /Hex	Part description 6
DB_data	Byte_Description + 120 To Byte_Description + 139	Byte	Char /Hex	Part description 7
DB_data	Byte_Description + 140 To Byte_Description + 159	Byte	Char /Hex	Part description 8
DB_data	Byte_Description + 160 To Byte_Description + 179	Byte	Char /Hex	Part description 9
DB_data	Byte_Description + 180 To Byte_Description + 199	Byte	Char /Hex	Part description 10
DB_data	Byte_Description + 200 To Byte_Description + 219	Byte	Char /Hex	Part description 11
DB_data	Byte_Description + 220 To Byte_Description + 239	Byte	Char /Hex	Part description 12

Format is Hex when PLCDataIsHEX is set to 1 else it is Char when PLCDataIsHEX is set to 0 (OCX_Oem.cfg, OperatorHelpNew section).



DB	Address	Type	Format	Remarks
DB_data	Byte_Code To Byte_Code + 3	Byte	Char /Hex	Short Code 1
DB_data	Byte_Code + 4 To Byte_Code + 7	Byte	Char /Hex	Short Code 2
DB_data	Byte_Code + 8 To Byte_Code + 11	Byte	Char /Hex	Short Code 3
DB_data	Byte_Code + 12 To Byte_Code + 15	Byte	Char /Hex	Short Code 4
DB_data	Byte_Code + 16 To Byte_Code + 19	Byte	Char /Hex	Short Code 5
DB_data	Byte_Code + 20 To Byte_Code + 23	Byte	Char /Hex	Short Code 6
DB_data	Byte_Code + 24 To Byte_Code + 27	Byte	Char /Hex	Short Code 7
DB_data	Byte_Code + 28 To Byte_Code + 31	Byte	Char /Hex	Short Code 8
DB_data	Byte_Code + 32 To Byte_Code + 35	Byte	Char /Hex	Short Code 9
DB_data	Byte_Code + 36 To Byte_Code + 39	Byte	Char /Hex	Short Code 10
DB_data	Byte_Code + 40 To Byte_Code + 43	Byte	Char /Hex	Short Code 11
DB_data	Byte_Code + 44 To Byte_Code + 47	Byte	Char /Hex	Short Code 11
DB_data	Byte_Code + 48 To Byte_Code + 51	Byte	Char /Hex	Short Code 12

Format is Hex when PLCDataIsHEX is set to 1 else it is Char when PLCDataIsHEX is set to 0 (OCX_Oem.cfg, OperatorHelpNew section).



DB	Address	Type	Format	Remarks
DB_data	Byte_Drawing To Byte_Drawing + 14	Byte	Char /Hex	Part number 1
DB_data	Byte_Drawing + 15 To Byte_Drawing + 29	Byte	Char /Hex	Part number 2
DB_data	Byte_Drawing + 30 To Byte_Drawing + 44	Byte	Char /Hex	Part number 3
DB_data	Byte_Drawing + 45 To Byte_Drawing + 59	Byte	Char /Hex	Part number 4
DB_data	Byte_Drawing + 60 To Byte_Drawing + 74	Byte	Char /Hex	Part number 5
DB_data	Byte_Drawing + 75 To Byte_Drawing + 89	Byte	Char /Hex	Part number 6
DB_data	Byte_Drawing + 90 To Byte_Drawing + 104	Byte	Char /Hex	Part number 7
DB_data	Byte_Drawing + 105 To Byte_Drawing + 119	Byte	Char /Hex	Part number 8
DB_data	Byte_Drawing + 120 To Byte_Drawing + 134	Byte	Char /Hex	Part number 9
DB_data	Byte_Drawing + 135 To Byte_Drawing + 149	Byte	Char /Hex	Part number 10
DB_data	Byte_Drawing + 150 To Byte_Drawing + 164	Byte	Char /Hex	Part number 11
DB_data	Byte_Drawing + 165 To Byte_Drawing + 179	Byte	Char /Hex	Part number 12

Format is Hex when PLCDataIsHEX is set to 1 else it is Char when PLCDataIsHEX is set to 0 (OCX_Oem.cfg, OperatorHelpNew section).



Variable Address	Standard Address	Type	Format	Remarks
ZCode	DB59.DBW1862	Doubleword	BCD	Serial number
PalettenNr	DB59.DBW1856	Word	BCD	Pallet number
BedCode	DB59.DBW1858	Doubleword	BCD	Operator code

DB_data, Byte_Description, Byte_Code, Byte_Drawing, ZCode, PalettenNr and BedCode are defined in OCX_Oem.cfg (OperatorHelpNew section); read "External Applications" chapter in this document.

e.g. OCX_Oem.cfg

[OperatorHelpNew]

Softkey=36

DB_data=160

Byte_Description=50

Byte_Code=290

Byte_Drawing=338

No_Rows=10

PLCDataIsHEX=0

Nummer = DB:59, OFFSET:0, TYP:Byte

ZCode= DB:59, OFFSET:1862, TYP:Byte

PalettenNr= DB:59, OFFSET:1856, TYP:Byte

BedCode= DB:59, OFFSET:1858, TYP:DoubleWord

Plustaste=TYP:Bit, DB:59, OFFSET:2920.0

PassWord=SUNRISE

- **Virtual Moby Screen (OEM)**

This screen for the assembly lines represents contents of all the data stored in a Virtual MOBY. It cannot be edited.

A maximum of 32767 addresses can be managed by each MOBY data register.

Ind.	ASCII	BCD	Bin	
20	I	10	0001	0000
21	I	11	0001	0001
22	I	12	0001	0010
23	I	13	0001	0011
24	I	14	0001	0100
25	I	15	0001	0101
26	I	99	1001	1001
27	I	17	0001	0111

Ind.	ASCII	BCD	Bin	
28	I	18	0001	1000
29	I	19	0001	1001
30		20	0010	0000
31	I	21	0010	0001
32	"	22	0010	0010
33	#	23	0010	0011
34	\$	24	0010	0100
35	%	25	0010	0101

Read Start address: 20 Serial nr. Number: 12345678

Write Address: 26 ASCII: I BCD: | Bin: 1001 1001

Data valid

This screen is made using a External Ocx - VB screen form.

In order to integrate/move or parameterized it in Hmi Pro project, read "External Applications" chapter in this document.

All saved values are logically combined with an index. 16 indices can be simultaneously displayed on the screen form. The start index is that index, which is entered in the initial address. If the mask is not in the modification mode, the cursor stay as the initial address.

If a new start index is required, it should be entered at this position, and acknowledged with the key.

Data can be available either in the ASCII format, BCD- or binary-coded for any particular workpiece. The form displays the values saved to the 16 indices.

If the saved data has to be modified, only personnel who know the password can do this.

Password input is initiated using the key. After the input field appears, the password must be entered. It remains active, until another form is selected. If you return to the Moby Info, and wish to again modify the data, then the password must be re-entered.

The address (Write) field becomes active after a password is entered. The index of the start address appears there, and the following index. The index to be modified, can be selected via a scroll bar. Finally, you can jump to an ASCII-, BCD- or binary field using the or the key and, after manipulation, exit this field again. The inputs are activated after depressing the (DB59.DBX2920.0) key.

The 16 fields must now only display 16 fixed bytes.

Messages can be displayed on bottom box; this box can contain different texts: one text each can be selected and displayed using the "Index Message" variable.

- **PLC interface**

DB	Address	Type	Format	Remarks
DBNr	StartByte To StartByte + 15	Byte	ASCII /BCD /Bin	Read address 1 to Read address 15
DB_data	DW_Serial_Nr_BCD	Doubleword	BCD	Serial Number
DB_data	Byte_Index_Messages	Byte	Dec	Index of messages

Variable Address	Standard Address	Type	Format	Remarks
Read Start address	DB59.DBW1890	Word	DEC	Read initial address
Write Start address (offset)	DB59.DBW1892	Word	BCD	Write initial address (offset)
BedCode	DB59.DBW1858	Doubleword	BCD	Operator code

DBNr, StartByte, DB_data, DW_Serial_Nr_BCD, Byte_Index_Messages are defined in OCX_Oem.cfg (VirtualMobyInfo section); read "External Applications" chapter in this document.

The text lists are contained in the file OCX_OEM.cfg – VirtualMobyInfo section – MessageX_YY where X is the index and YY stands for the language identification symbol.

e.g. OCX_Oem.cfg
[VirtualMobyInfo]
Softkey=51
DBNr=59
StartByte=10
DB_data=160
DW_Serial_Nr_BCD=400
Byte_Index_Messages=404
Nr_Max_Messages=10
PassWord=SUNRISE
...
Message1_uk=Data invalid
Message2_uk=Data valid
Message3_uk=Data modified
Message4_uk=Reading OK
Message5_uk=Writing OK
Message6_uk=Message 6
Message7_uk=Message 7
Message8_uk=Message 8
Message9_uk=Message 9
Message10_uk=Message 10
ReadStr_uk=Read
WriteStr_uk=Write
AAdStr_uk=Start address
AdStr_uk=Address
SlgStr_uk=Serial nr.

Powertrain

Example:

The screenshot displays a data table with two main sections, each containing columns for Ind., ASCII, BCD, and Bin. The first section (left) has rows 20-27, and the second section (right) has rows 28-35. A red dashed box highlights the first section. Below the table is a control panel with 'Read' and 'Write' buttons, a 'Start address' field (20), a 'Serial nr.' field (12345678), and a 'Data valid' indicator. A red dashed line connects the 'Data valid' indicator to the messages list.

Ind.	ASCII	BCD	Bin
20	I	10	0001 0000
21	I	11	0001 0001
22	I	12	0001 0010
23	I	13	0001 0011
24	I	14	0001 0100
25	I	15	0001 0101
26	I	99	1001 1001
27	I	17	0001 0111

Ind.	ASCII	BCD	Bin
28	I	18	0001 1000
29	I	19	0001 1001
30		20	0010 0000
31	!	21	0010 0001
32	"	22	0010 0010
33	#	23	0010 0011
34	\$	24	0010 0100
35	%	25	0010 0101

Control panel fields:

- Read: Start address 20
- Write: Address 25, 26; ASCII I; BCD 99; Bin 1001
- Serial nr. Number 12345678
- Data valid

Messages list:

Address	Display format	Status value
DB59.DBB 10	HEX	B#16#10
DB59.DBB 11	HEX	B#16#11
DB59.DBB 12	HEX	B#16#12
DB59.DBB 13	HEX	B#16#13
DB59.DBB 14	HEX	B#16#14
DB59.DBB 15	HEX	B#16#15
DB59.DBB 16	HEX	B#16#99
DB59.DBB 17	HEX	B#16#17
DB59.DBB 18	HEX	B#16#18
DB59.DBB 19	HEX	B#16#19
DB59.DBB 20	HEX	B#16#20
DB59.DBB 21	HEX	B#16#21
DB59.DBB 22	HEX	B#16#22
DB59.DBB 23	HEX	B#16#23
DB59.DBB 24	HEX	B#16#24
DB59.DBB 25	HEX	B#16#25
DB59.DBW 1890	DEC	20
DB59.DBW 1892	DEC	7
DB160.DBD 400	HEX	DW#16#12345678
DB160.DBB 404	DEC	2
DB59.DBX 2920.0	BOOL	false

Messages list (VirtualMobyInfo):

```

[VirtualMobyInfo]
Softkey=51
DBNr=59
StartByte=10
DB_data=160
DW_Serial_Nr_BCD=400
Byte_Index_Messages=404
Nr_Max_Messages=10
PassWord=SUNRISE
...
Message1_uk=Data invalid
Message2_uk=Data valid
Message3_uk=Data modified
Message4_uk=Reading OK
Message5_uk=Writing OK
Message6_uk=Message 6
Message7_uk=Message 7
Message8_uk=Message 8
Message9_uk=Message 9
Message10_uk=Message 10
ReadStr_uk=Read
WriteStr_uk=Write
AAdStr_uk=Start address
AdStr_uk=Address
SlgStr_uk=Serial nr.

```