**mMS station 3 STORAGE I/O LIST**

**1.control panel**

VAR\_GLOBAL

(\*---------------------------------------------- Inputs IX1.0-IX 2.7 Control panel ------------------------------------------\*)

i\_Emergency\_stop\_Relay\_OK AT %IX1.0:BOOL; (\*Emergency stop relay OK\*)

i\_Switch\_Manual\_S0 AT %IX1.1:BOOL; (\*Switch Manual S0\*)

i\_Switch\_Auto\_S0 AT%IX1.2:BOOL; (\* Switch Auto S0\*)

i\_Start\_Button\_SH10 AT%IX1.3:BOOL; (\*Start button SH10\*)

i\_Stop\_Button\_SH11 AT%IX1.4:BOOL; (\*Stop button SH11\*)

i\_Acknowledgement\_button\_SH12 AT%IX1.5:BOOL; (\*Acknowledgement button SH12\*)

i\_SH6\_Referencing\_run AT%IX1.6:BOOL; (\*SH6 Referencing run\*)

i\_S8\_Emergency\_stop\_operated AT%IX1.7:BOOL; (\*S8 Switch Emergency stop operated\*)

i\_S1\_Switch\_can\_be\_freely\_defined AT%IX2.0:BOOL; (\*S1 Switch can be freely defined \*)

i\_S2\_Switch\_Empty\_high\_bay\_racking AT%IX2.1:BOOL; (\*S2 Switch Empty high bay racking\*)

i\_S3\_Switch\_can\_be\_freely\_defined AT%IX2.2:BOOL; (\*S3 Switch can be freely defined\*)

i\_S4\_Switch\_can\_be\_freely\_defined AT%IX2.3:BOOL; (\*S4 Switch can be freely defined\*)

i\_S5\_Switch\_can\_be\_freely\_defined AT%IX2.4:BOOL; (\*S5 Switch can be freely defined\*)

(\*---------------------------------------------- Outputs QX1.0-QX1.3 Control panel ------------------------------------------\*)

q\_SH10\_ML\_Start AT%QX1.0:BOOL; (\*Indicator lamp SH10 Start\*)

q\_SH11\_ML\_Stop AT%QX1.1:BOOL; (\*Indicator lamp SH11 Program Stop\*)

q\_SH12\_ML\_Acknowledgement AT%QX1.2:BOOL; (\*Indicator lamp SH12 Acknowledgement\*)

q\_SH6\_ML\_Referencing\_run AT%QX1.3:BOOL; (\*Indicator lamp SH6 Referencing run\*)

END\_VAR

**2.HANDLING DEVICE**

VAR\_GLOBAL

(\*----------------------------------------- Inputs IX3.0-IX3.3 Handling device -----------------------------------------\*)

i\_Home\_Position\_B1 AT%IX3.0:BOOL; (\*Sensor B1 Home position\*)

i\_Vertical\_cylinder\_down\_B2 AT%IX3.1:BOOL; (\*Sensor B3 Vertical cylinder up\*)

i\_Vertical\_cylinder\_up\_B3 AT%IX3.2:BOOL; (\*Sensor B2 Vertical cylinder down\*)

i\_Z\_axis\_retracted\_B4 AT%IX3.3:BOOL; (\*Sensor B4 Z-axis retracted\*)

(\*----------------------------------------- Inputs IX4.0-IX4.3 Handling device ------------------------------------------\*)

i\_Z\_axis\_extended\_B5 AT%IX4.0:BOOL; (\*Sensor B5 Z-axis extended\*)

(\*----------------------------------------- Outputs QX3.0-QX3.3 Handling device --------------------------------------\*)

q\_Vertical\_cylinder\_up\_Y1 AT%QX3.0:BOOL; (\*Vertical cylinder up Y1\*)

q\_Sucking\_ON\_Y2 AT%QX3.1:BOOL; (\*Sucking ON Y2\*)

q\_Extend\_Z\_axis\_Y3 AT%QX3.2:BOOL; (\*Extend Z-axis Y3\*)

q\_Motor\_Clockwise\_K1 AT%QX3.3:BOOL; (\*Motor Clockwise K1\*)

(\*----------------------------------------- Outputs QX4.0-QX4.3 Handling device --------------------------------------\*)

q\_Motor\_Counter\_clockwise\_K2 AT%QX4.0:BOOL; (\*Motor Counter-clockwise K2\*)

END\_VAR

**3. HIGH BAY**

VAR\_GLOBAL

(\*------------------------------------------------- Inputs IX14.0-IX14.3 High bay racking Vertical axis ------------------------------------------------------\*)

i\_Postion\_reached\_vertical\_B1 AT%IX14.0:BOOL; (\*Sensor B1 Position reached vertical \*)

i\_Limit\_stop\_down\_S2 AT %IX14.1:BOOL; (\*Grenzschalter S2 Limit stop down\*)

i\_Limit\_stop\_up\_S4 AT %IX14.2:BOOL; (\*Grenzschalter S4 Limit stop up\*)

i\_Cylinder\_extended\_B6 AT %IX14.3:BOOL; (\*Sensor B6 Cylinder extended\*)

(\*------------------------------------------------- Inputs IX14.4-IX14.7 High bay racking Vertical axis ------------------------------------------------------\*)

i\_Cylinder\_retracted\_B7 AT %IX14.4:BOOL; (\* Sensor B7 Cylinder retracted\*)

i\_Reserve\_14\_5 AT %IX14.5:BOOL; (\*Reserve 14\_5\*)

i\_Reserve\_14\_6 AT %IX14.6:BOOL; (\*Reserve 14\_6\*)

i\_Reserve\_14\_7 AT %IX14.7:BOOL; (\*Reserve 14\_7\*)

(\*------------------------------------------------- Inputs IX15.0-IX15.3 High bay racking Horizontal unit ------------------------------------------------------\*)

i\_Column\_reached\_B10 AT %IX15.0:BOOL; (\*Sensor B10 Column reached\*)

i\_Limit\_stop\_left\_S11 AT %IX15.1:BOOL; (\*Proximity switch S11 Limit stop left\*)

i\_Limit\_stop\_right\_S13 AT %IX15.2:BOOL; (\*Proximity switch S13 Limit stop right\*)

i\_Transfer\_Position\_reached\_B15 AT %IX15.3:BOOL; (\*Sensor B15 Transfer position reached\*)

(\*------------------------------------------------- Inputs IX15.4-IX15.7 High bay racking Horizontal unit ------------------------------------------------------\*)

i\_Reserve\_15\_4 AT %IX15.4:BOOL; (\*i\_Reserve 15\_4\*)

i\_Reserve\_15\_5 AT %IX15.5:BOOL; (\*i\_Reserve 15\_5\*)

i\_Reserve\_15\_6 AT %IX15.6:BOOL; (\*i\_Reserve 15\_6\*)

i\_Reserve\_15\_7 AT %IX15.7:BOOL; (\*i\_Reserve 15\_7\*)

(\*------------------------------------------------- Outputs QX14.0-QX14.3 High bay racking Vertical axis ------------------------------------------------------\*)

q\_Motor\_Vertical\_axis\_Clockwise\_K3 AT %QX14.0:BOOL; (\*Motor Vertical axis Clockwise K3\*)

q\_Motor\_Vertical\_axis\_Counter\_clockwise\_K4 AT %QX14.1:BOOL; (\*Motor Vertical axis Counter-clockwise K4\*)

q\_Cylinder\_HR\_Y1 AT %QX14.2:BOOL; (\*Cylinder Y1 High bay racking \*)

q\_Reserve\_14\_3 AT %QX14.3:BOOL; (\*q\_Reserve 14\_3 \*)

(\*------------------------------------------------- Outputs QX15.0-QX15.3 High bay racking Horizontal unit ------------------------------------------------------\*)

q\_Horizontal\_Direction\_Initial\_position\_K1 AT %QX15.0:BOOL;(\* Horizontal Direction Initial position K1\*)

q\_Horizontal\_Direction\_Transfer\_K2 AT %QX15.1:BOOL; (\* Horizontal Direction Transfer K2\*)

q\_Reserve\_15\_2 AT %QX15.2:BOOL; (\*q\_Reserve 15\_2 \*)

q\_Reserve\_15\_3 AT %QX15.3:BOOL; (\*q\_Reserve 15\_3 \*)

END\_VAR

**4. ONBOARD IO**

VAR\_GLOBAL

(\*---------------------------------------------- Inputs Onboard ------------------------------------------\*)

i\_Station2\_finished AT %IX0.0:BOOL;(\*Station 2 finished --> Station 3\*)

Reserve\_E\_1 AT %IX0.1:BOOL;(\*Reserve E0.1\*)

i\_Station2\_coupled AT%IX0.2:BOOL;(\* Station 2 coupled with Station 3\*)

i\_Ackn\_from\_Table2 AT %IX0.3:BOOL;(\*Acknowledgement key of table2 or table3 pressed\*)

Reserve\_E\_4 AT %IX0.4:BOOL;(\*Reserve E0.4\*)

Reserve\_E\_5 AT %IX0.5:BOOL;(\*Reserve E0.5\*)

i\_Converter\_unit\_Channel\_A AT%IX0.6:BOOL;(\*Converter unit Channel A\*)

i\_Converter\_unit\_Channel\_B AT%IX0.7:BOOL;(\*Converter unit Channel B\*)

(\*-------------------------------------------- Outputs Onboard -------------------------------------------------------\*)

Reserve\_A\_0 AT%QX0.0:BOOL;(\*Reserve A0.0\*)

q\_Ackn\_to\_Table2 AT%QX0.1:BOOL;(\*Acknowledgement to table 2\*)

Reserve\_A\_2 AT%QX0.2:BOOL;(\*Reserve A0.2\*)

Reserve\_A\_3 AT%QX0.3:BOOL;(\*Reserve A0.3\*)

q\_KR\_Emergency\_stop AT%QX0.4:BOOL;(\*Coupling relay (KR) Acknowledge emergency stop \*)

Reserve\_A\_5 AT%QX0.5:BOOL;(\*Reserve A0.5\*)

Reserve\_A\_6 AT%QX0.6:BOOL;(\*Reserve A0.6\*)

Reserve\_A\_7 AT%QX0.7:BOOL;(\*Reserve A0.7\*)

END\_VAR