

## Category 1

### 1.18 PLC In/Output Register



There is also an area for tracking and coordinating PLC Input and Outputs and including analogue inputs. This allows for the control and instrumentation requirements to be fully integrated with the cable schedules.

PLC Table For :- Sandgate Waste Water Treatment Plant (Richard Flanagan) File Location :- \\CHRIS4\DATA\KONTROLPRO\PROJ110.DF1

Bioreactor 2 High Intensity Zone DO Indicating Transmitter 1575 Revision No:- 10 Last Modified

Ref No	Stat	Module Type	I/O Code	Rack No	Slot No	Channel	Wire No Addr	Tag Number	I-O Function Description	PLC or IO Location	
			PLC Internal Word Address	State Low	State High			Type of Contact			
		Factory Test Name	Date of Test	Comment							<input type="checkbox"/> Hide
		Site Test Name	Date of Test								
Ref ...	S...	Module Type	I/O Co...	Rack	Slot	Channels	Wire No Addr	Tag Number	Function Description	PLC:IO Location	PLC Word Adc
0	C		WI					AIT-31102	Bioreactor No1 High Intensity Zone DO Indicator/Transmitter	MCC-003-01	
0	C		WI					AIT-31102	Bioreactor No1 High Intensity Zone DO Indicator/Transmitter	MCC-003-01	
0	C		WI					AIT-31103A	Bioreactor No1 Anoxic Zone DO Indicator/Transmitter Fault Word	MCC-003-01	
0	C		WI					AIT-31103A	Bioreactor No1 Anoxic Zone DO Indicator/Transmitter	MCC-003-01	
0	C		WI					AIT-31103B	Bioreactor 1 Low Intensity Zone DO Indicating Transmitter	MCC-003-01	
0	C		WI					AIT-31103B	Bioreactor 1 Low Intensity Zone DO Indicating Transmitter	MCC-003-01	
0	C		WI					AIT-31105	Bioreactor No1 ORP Initial Zone Indicator/Transmitter Fault	MCC-003-01	
0	C		WI					AIT-31105	Bioreactor No1 ORP Initial Zone Indicator/Transmitter	MCC-003-01	
0	C		WI					AIT-31106	Bioreactor No1 ORP Final Zone Indicator/Transmitter Fault Word	MCC-003-01	
0	C		WI					AIT-31106	Bioreactor No1 ORP Final Zone Indicator/Transmitter	MCC-003-01	
0	C		WI					AIT-31114	Bioreactor No1 Mixed Liquor pH and Temperature Indicator/Tra	MCC-003-01	
0	C		WI					AIT-31114	Bioreactor No1 Mixed Liquor pH and Temperature Indicator/Tra	MCC-003-01	
0	C		AI					AIT-31115	Bioreactor No1 NH4 Indicator/Transmitter	MCC-003-01	
0	C		WI					AIT-32102	Bioreactor 2 High Intensity Zone DO Indicator/Transmitter	MCC-007-01	
0	C		WI					AIT-32102	Bioreactor 2 High Intensity Zone DO Indicator/Transmitter Fa	MCC-007-01	
0	C		WI					AIT-32103A	Bioreactor 2 Anoxic Zone DO Indicator/Transmitter	MCC-007-01	
0	C		WI					AIT-32103A	Bioreactor 2 Anoxic Zone DO Indicator/Transmitter Fault Word	MCC-007-01	
0	C		WI					AIT-32103A	Bioreactor 2 Final Zone ORP Indicator/Transmitter	MCC-007-01	
0	C		WI					AIT-32103B	Bioreactor 2 Low Intensity Zone DO Indicator/Transmitter	MCC-007-01	
0	C		WI					AIT-32103B	Bioreactor 2 Low Intensity Zone DO Indicator/Transmitter Fault	MCC-007-01	
0	C		WI					AIT-50108	UV Channel Turbidity Indicator/Transmitter	MCC-004-01	
0	C		WI					AIT-50108	UV Channel Turbidity Indicator/Transmitter Fault Word	MCC-004-01	
0	C		WI					AIT-81105A	Odorgard Scrubber Recirculation pH Analyser No 1	MCC-005-01	
0	C		WI					AIT-81105A	Odorgard Scrubber Recirculation pH Analyser No 1 Fault Word	MCC-005-01	
0	C		WI					AIT-81105B	Odorgard Scrubber Recirculation pH Analyser No 2	MCC-005-01	
0	C		WI					AIT-81105B	Odorgard Scrubber Recirculation pH Analyser No 2 Fault Word	MCC-005-01	
0	C		WI					AIT-81106A	Odorgard Scrubber Recirculation ORP Analyser No 1	MCC-005-01	
0	C		WI					AIT-81106A	Odorgard Scrubber Recirculation ORP Analyser No 1 Fault Word	MCC-005-01	
0	C		WI					AIT-81106B	Odorgard Scrubber Recirculation ORP Analyser No 2	MCC-005-01	

Buttons: Import DDE, Export Excel, New, Edit, OK, Cancel, Close

#### Ref No:

The reference number is a unique number and is used in the Export and Import procedures. The way this works is a unique number is created by finding the last number on the file that has been used, and by adding one the number a new unique number is created.

This number is used in the export procedure to possible a subcontract PLC programmer.

The programmer may need to change the information, so if the reference number is maintained the information can be used to update the PLC file in the data base.

If the PLC programmer adds new lines of I/O to the Excel sheet then any blank spaces in reference number column that are encountered this system assumes that there are needed and new reference number is created and added.

#### Status:

There are three (3) status levels; C = Current, H = Hold and D = Delete

The records that have the Delete status can be maintained in the system, because in design projects they can sometimes make their way back into the system as a current record.

## I/O Code:-

There are eight (8) different I/O Code levels:-

- Digital Output
- Digital Input
- Analogue Input
- Analogue Output
- Flag Output
- Flag Input
- Word Output
- Word Input

## Rack No:-

This contains the rack (Horizontal Row) number of the PLC or remote Input or Output (I/O).

## Channel:-

This is for entering the number Inputs for example Module 16 = Digital Inputs or Module 8 = digital Inputs & 8 Digital Outputs or 8 Analogue Inputs ect.

## Wire No. add:-

Wire number address, for example Rack or Module number then channel (Terminal number) number. Rack=1 Slot=2 Channel=16. Then number = 1-2-16

## Tag number:

This field holds the tag number for related I/O register. A right mouse click will open tag number list based on the first character of the description of the equipment.

## PLC or IO Location:

This is the storage location of the PLC or remote I/O. If assigned to an object do right mouse click whilst in Enter mode to install selection list. This allows the system to track the amount PLC modules that are required at each location,

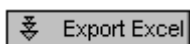


The system has a DDE (Dynamic Data Exchange) function. This means information contained in an Excel Spread sheet can be automatically imported into the PLC data file in Kontrol-Pro.

To do this the Excel Spread must be set up with columns in the correct order. To get an example, put a few lines into the data base and do an export, if the column arrangement is the same then vast amounts of information can easily be imported quickly and efficiently.


The rules are Microsoft Excel must open with the current work sheet open as well. The system will prompt you for the work sheet name, so the Omnis Studio knows where to extract the information from. The next rule is that information must be continuous in the Status column as the system will start reading information from the third row down and the import procedure will stop when a blank space is encountered. So there must be no blank lines in the data.


The import procedure will also interpret and establish what information has been updated for example if the Tag Number has changed the description field will show column F1 changed. The procedure when reading it in is flagged because the present field does not match the new field being read in. The date field is called "Date Modified" is also updated when this procedure is used.




This exports the whole file to Microsoft Excel, using Microsoft automation feature that allows Omnis studio to talk to an instance of Excel. The procedure prompts you to save into the folder called "Transportx" in "OSRT42" in Program Files for later retrieval.

A Right mouse click will produce an excel report on the selected lines. Lines can be selected by using the Ctrl key so records do not have to be in consecutive order.

 A normal mouse click of this button will build a list of current Inputs and Outputs. Right click to build all inputs and outputs.

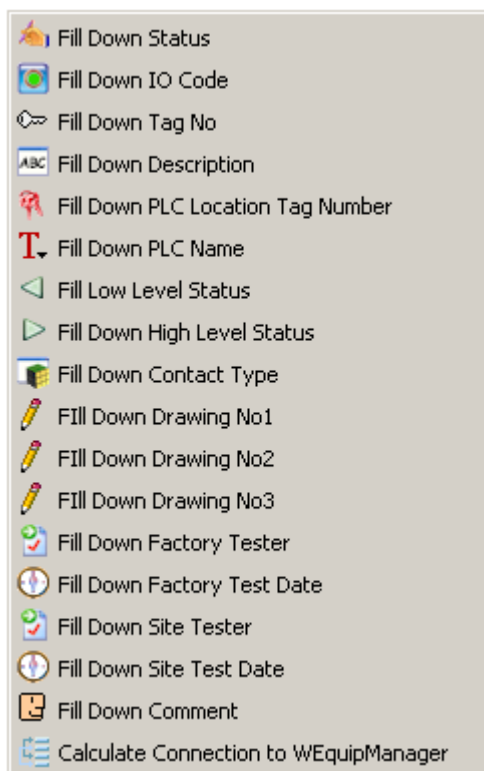
 This button gives totals. To use select the lines required then press this button.

 This button clears the selected lines in a list, however it does not delete the data all it does is allows the user to focus on for example 10 lines of data.

Note:- If you want the text in the main headed list to be lager by using the “Ctrl + ] “ this lifts the font size up by one size. By using the “Ctrl + [ “ this steps down one size.

### Additional Functions

Additional functions displayed on the menu below are reached by using a right on the mouse over the main headed list.



The fill down functions work by changing the record by the normal edit function, that record should be at the highest point of a group of records that requires simultaneous change. Then by highlighting top newly changed record, and all the records below that new adjustment.

Note the records do not necessarily have to be adjacent to each other, they can have gaps in the highlighting.