



Migration Guide for UPR900/ATC990

Operating Manual



Introduction

Scope

This document describes the differences between the Dynisco ATC770 /UPR700 and the ATC990/UPR900 with respect to the Modbus addresses.

The address will be segregated into three sections:

- a. Addresses ATC770/UPR700 with equivalent addresses on the ATC990/UPR900 with return data in the same format
- b. Addresses ATC770/UPR700 with equivalent addresses on the ATC990/UPR900 with return data in a different format
- c. Addresses ATC770/UPR700 with no equivalent addresses on the ATC990/UPR900

Advisory notes and comments are placed as footnotes within the document. They do not form essential requirements of the product.

Precedence

This document has been compiled from the best available information at the time of writing. Errors should be reported in the first instance to the author who will then update the document. Additions or changes to the requirements stated shall be submitted to the Project Leader at West Instruments Ltd for incorporation into this document. Changes submitted too late for incorporation into the plan of work may not be incorporated.

Some requirements refer to National & International Standards; the current versions of these standards shall always take precedence over the information contained in this document. Other documents that may take precedence are referred to in the text.

Audience

This document will be used anyone that needs to know the modbus parameters supported by the ATC and UPR instruments.



Addresses ATC770/UPR700 with equivalent addresses on the ATC990/UPR900 with return data in the same format

Address List

ATC770/UPR700 Address	Description	ATC990/UPR900 Address	Difference
1000	Display input variable	1031	Input 1 value
1001	Instantaneous input variable	1108	
1002	Peak Value	1101	
1003	Temperature Value	1117	Input 2 value
1004	Operative Setpoint Value	3960	
1005	Output Value in %	4329	
1006	Output Value in rpm	4348	
1008	Alarm 1 status	6148	
1009	Alarm 2 status	6164	
1010	Alarm 3 status	6180	
1014	Automatic/Manual mode status	4308	
1100	Setpoint	3960	
1104	Auto/manual selection	7880-7884	This is set by the digital input selection addresses
1105	Alarm 1 threshold	6145	
1108	Alarm 2 threshold	6161	
1111	Alarm 3 threshold	6177	
1200	Zero Calibration	1092 – 1094	These do not match the procedure but to perform the same function
1201	Span Calibration		
1202	Input calibration status		
1205	Proportional Band	4312	
1206	Integral Time	4314	
1208	Derivative Time	4315	
1210	Integral preload	4316	
1214	Filter for display and controller	1030	
1215	Local/remote setpoint selection	4122	The remote setpoint option is not supported this selects between setpoint 1 and setpoint 2
1217	Alarm 1 Filter	6153	
1218	Alarm 2 Filter	6169	
1219	Alarm 3 Filter	6185	
1224	Automatic standby	4355	



	pressure low limit		
1225	Automatic standby recovery time	4356	
1303	Pressure input decimal point position	1026	
1318	Main output range low	2152 or 2400	Address dependent on source
1319	Main output range high	2153 or 2401	Address dependent on source
1306	Temperature input thermocouple type	1110	Universal input 2
1307	Engineering unit for temperature	1111	
1308	Temperature input range low	1113	
1309	Temperature input range high	1114	
1310	Temperature input decimal place position	1112	
1311	Alarm 1 input channel link	6144	
1312	Alarm 1 type	6143	
1313	Alarm 2 input channel link	6160	
1314	Alarm 2 type	6159	
1315	Alarm 3 input channel link	6176	
1316	Alarm 3 type	6175	
1322	Second analog output link	2174	
1327	Control output range low	4321	
1328	Control output range high	4322	
1329	Control output decimal point position	N/A	
1332	Setpoint limit low	3944	
1333	Setpoint limit high	3945	
1334	Manual/Auto start-up	4349	
1335	Serial communication interface address	2117	
1337	Communication type	2119	
1338	Communication baud rate	2118	



1400	Shunt calibration	1090	
1401	Shunt Value	1091	
1403	Pressure input fail safe	1096	
1405	Temperature input fail safe	1182	
1406	Alarm 1 hysteresis	6146	
1407	Alarm 1 reset mode	2135	
1408	Alarm 2 hysteresis	6162	
1409	Alarm 2 reset mode	2165	
1410	Alarm 3 hysteresis	6178	
1411	Alarm 3 reset mode	2168	
1414	Logic input status	2001	
1415	Peak detection	1097	
1417	Setpoint ramp	4123	
1420	Control output manual mode indication	4345	
1421	Direct/reverse selection for control output	4311	

Addresses with different data formats

ATC770/UPR700 Address	Description	ATC990/UPR900 Address	Difference
120	Manufacturers Trade Mark	216	Returns 22345
121	Device identification code	203	Returns 354
1301	Pressure input full scale value	1028	These are not in the same format
1302	Pressure input low scale value	1027	
1317	Main Analog output link	2144	This is not the same format
1323	Second output range low	2182 or 2430	Address dependent on source
1324	Second output range high	2183 or 2431	Address dependent on source
1413	Logic input configuration	7880 to 7884	There are several digital inputs that can be setup to all of the original features
1423	Alarm 1 failsafe mode		These are dependent on output selection of addresses 2146,
1424	Alarm 2 failsafe mode		



1425	Alarm 3 failsafe mode		2176, 2177, 2205 and 2206
1500	Pressure input selection	1024	This covers more options that ATC700/UPR770
1502	Temperature input selection	1110	This covers more options that ATC700/UPR770
1503	Control output selection		These are all dependent on output selection parameters defined in section 4 og FDD-00088
1504	Retransmission output selection		
1505	Main analog output selection		
1506	Second analog output selection		

Unsupported functions

ATC770/UPR700 Address	Description	ATC990/UPR900 Address	Difference
216	Error 203 handling	N/A	Unsupported function
217	Error 204 handling	N/A	Unsupported function
218	Local/Remote status	N/A	Unsupported function
219	Global unsolicited request indication	N/A	Unsupported function
220	Unsolicited request indication for group 1 parameters	N/A	Unsupported function
221	Unsolicited request indication for group 2 parameters	N/A	Unsupported function
222	Unsolicited request indication for group 3 parameters	N/A	Unsupported function
223	Unsolicited request indication for group 4 parameters	N/A	Unsupported function
224	Unsolicited request indication for group 5 parameters	N/A	Unsupported function
228	Unsolicited request indication for group 9 parameters	N/A	Unsupported function
1101	Alarm Mask Reset	N/A	Unsupported function



1102	Security Status	N/A	Unsupported function
1103	Security code input value	N/A	Unsupported function
1007	Deviation Value	N/A	Unsupported function
1011	Variation on alarm status	N/A	Unsupported function
1106	Decimal figures assigned to alarm 1 threshold	N/A	Unsupported function
1107	Multiplicative factor assigned to alarm 1 threshold	N/A	Unsupported function
1109	Decimal figures assigned to alarm 2 threshold	N/A	Unsupported function
1110	Multiplicative factor assigned to alarm 2 threshold	N/A	Unsupported function
1112	Decimal figures assigned to alarm 3 threshold	N/A	Unsupported function
1113	Multiplicative factor assigned to alarm 3 threshold	N/A	Unsupported function
1203	Step for smart function	N/A	Unsupported function
1204	Decimal figures assigned to step for smart function	N/A	Unsupported function
1207	Decimal figures assigned to intergral time	N/A	Unsupported function
1209	Decimal figures assigned to derivative time	N/A	Unsupported function
1211	Automatic selection of intergral preload value	N/A	Unsupported function
1212	Type of control	N/A	Unsupported function
1213	Automatic selection of filter time constant	N/A	Unsupported function
1216	Display Filter	N/A	Unsupported function
1220	Main Analog output	N/A	Unsupported function



	filter		
1221	Second analog output filter	N/A	Unsupported function
1222	Retransmission output filter	N/A	Unsupported function
1223	Automatic standby	N/A	Unsupported function
1300	Pressure input Multiplicative factor	NA	Unsupported function
1304	Remote setpoint input range low	N/A	Unsupported function
1305	Remote setpoint input range high	N/A	Unsupported function
1320	Decimal figures assigned to main output ranges	N/A	Unsupported function
1321	Multiplicative factor assigned to main output ranges	N/A	Unsupported function
1325	Decimal figures assigned to second output ranges	N/A	Unsupported function
1326	Multiplicative factor assigned to second output ranges	N/A	Unsupported function
1330	Retransmission output range low	N/A	Unsupported function
1331	Retransmission output range high	N/A	Unsupported function
1336	Protocol type	N/A	1336
1402	Decimal figures assigned to shunt value	N/A	Unsupported function
1404	Remote setpoint input fail safe	N/A	Unsupported function
1412	Decimal figures assigned to alarm hysteresis	N/A	Unsupported function
1416	Manual/Auto transfer	N/A	Unsupported function
1418	Control output limiter	N/A	Unsupported function
1419	Decimal figures assigned to control output limiter,	N/A	Unsupported function



	integral preload and output value in percentage		
1422	Line frequency	N/A	
1501	Remote setpoint input selection	N/A	Unsupported function
1900	Process time delay	N/A	The tuning of the controller is different and these parameters do not map
1901	Process time constant	N/A	
1902	Process gain	N/A	
1903	Start time of smart function	N/A	
1904	Stop time of smart function	N/A	
1905	Decimal figures assigned to above	N/A	
1906	Adaptive step		
2000	Security code level A	N/A	Unsupported function
2001	Security code level B	N/A	Unsupported function
2002	Security code level C	N/A	Unsupported function
2100	Load Default value	N/A	Unsupported function
2101	Alarm and peak reset	N/A	Unsupported function
2102	Hardware flag read	N/A	Unsupported function
2103	Direct relay coils drive	N/A	Unsupported function