



IPS controller 4000

Integrated pumping
system for variable
primary application

Data points

File No: 90.971
Date: SEPTEMBER 01, 2016
Supersedes: NEW
Date: NEW

—

—

—

—

CONTENTS

BAS data points - Modbus RTU	4
BAS data points - BACnet	13

BAS DATA POINTS - MODBUS RTU

BUILDING AUTOMATION SYSTEM MODBUS RTU

IPS 4000 Primary Communication Interface Rev 2015111

MODBUS ADDRESS	SIGNAL TYPE	READ/WRITE	DESCRIPTION	OFF STATE (0)	ON STATE (1)	TYPE
10401	Digital	R	Sensor Alarm	Ok	Alarm	Toggle
10402	Digital	R	System Alarm	Ok	Alarm	Toggle
10403	Digital	R	Pump Alarm	Ok	Alarm	Toggle
10404	Digital	R	Pump 1 in Hand mode		Hand	Toggle
10405	Digital	R	Pump 1 in Off mode		Off	Toggle
10406	Digital	R	Pump 1 in Auto mode		Auto	Toggle
10407	Digital	R	Pump 2 in Hand mode		Hand	Toggle
10408	Digital	R	Pump 2 in Off mode		Off	Toggle
10409	Digital	R	Pump 2 in Auto mode		Auto	Toggle
10410	Digital	R	Pump 3 in Hand mode		Hand	Toggle
10411	Digital	R	Pump 3 in Off mode		Off	Toggle
10412	Digital	R	Pump 3 in Auto mode		Auto	Toggle
10413	Digital	R	Pump 4 in Hand mode		Hand	Toggle
10414	Digital	R	Pump 4 in Off mode		Off	Toggle
10415	Digital	R	Pump 4 in Auto mode		Auto	Toggle
10416	Digital	R	Pump 5 in Hand mode		Hand	Toggle
10417	Digital	R	Pump 5 in Off mode		Off	Toggle
10418	Digital	R	Pump 5 in Auto mode		Auto	Toggle
10419	Digital	R	Pump 6 in Hand mode		Hand	Toggle
10420	Digital	R	Pump 6 in Off mode		Off	Toggle
10421	Digital	R	Pump 6 in Auto mode		Auto	Toggle
10422	Digital	R	Reserved			
10423	Digital	R	Reserved			
10424	Digital	R	Reserved			
10425	Digital	R	Reserved			
10426	Digital	R	Reserved			
10427	Digital	R	Reserved			
10428	Digital	R	Reserved			
10429	Digital	R	Reserved			
10430	Digital	R	Reserved			
10431	Digital	R	Reserved			
10432	Digital	R	Reserved			
10433	Digital	R	Reserved			
10434	Digital	R	Pump 1 Run Feedback	Stopped	Running	Toggle
10435	Digital	R	Pump 2 Run Feedback	Stopped	Running	Toggle
10436	Digital	R	Pump 3 Run Feedback	Stopped	Running	Toggle
10437	Digital	R	Pump 4 Run Feedback	Stopped	Running	Toggle
10438	Digital	R	Pump 5 Run feedback	Stopped	Running	Toggle
10439	Digital	R	Pump 6 Run feedback	Stopped	Running	Toggle

MODBUS ADDRESS	SIGNAL TYPE	READ/WRITE	DESCRIPTION	OFF STATE (0)	ON STATE (1)	TYPE
10440	Digital	R	Reserved			
10441	Digital	R	Reserved			
10442	Digital	R	Reserved			
10443	Digital	R	Reserved			
10444	Digital	R	Temperature Transmitter Failed	Ok	Alarm	Toggle
10445	Digital	R	EOC DP Transmitter Failed	Ok	Alarm	Toggle
10446	Digital	R	System Flow Transmitter Failed	Ok	Alarm	Toggle
10447	Digital	R	Reserved			
10448	Digital	R	Reserved			
10449	Digital	R	All Zones DP Transmitters Failed	Ok	Alarm	Toggle
10450	Digital	R	Zone 1 DP Transmitter Failed	Ok	Alarm	Toggle
10451	Digital	R	Zone 2 DP Transmitter Failed	Ok	Alarm	Toggle
10452	Digital	R	Zone 3 DP Transmitter Failed	Ok	Alarm	Toggle
10453	Digital	R	Zone 4 DP Transmitter Failed	Ok	Alarm	Toggle
10454	Digital	R	Zone 5 DP Transmitter Failed	Ok	Alarm	Toggle
10455	Digital	R	Zone 6 DP Transmitter Failed	Ok	Alarm	Toggle
10456	Digital	R	Zone 7 DP Transmitter Failed	Ok	Alarm	Toggle
10457	Digital	R	Zone 8 DP Transmitter Failed	Ok	Alarm	Toggle
10458	Digital	R	Zone 9 DP Transmitter Failed	Ok	Alarm	Toggle
10459	Digital	R	Zone 10 DP Transmitter Failed	Ok	Alarm	Toggle
10460	Digital	R	Zone 11 DP Transmitter Failed	Ok	Alarm	Toggle
10461	Digital	R	Zone 12 DP Transmitter Failed	Ok	Alarm	Toggle
10462	Digital	R	Chiller/Boiler Min Flow Alarm (Note 1)	Ok	Alarm	Toggle
10463	Digital	R	Chiller/Boiler Max Flow Alarm (Note 2)	Ok	Alarm	Toggle
10464	Digital	R	Reserved			
10465	Digital	R	Reserved			
10466	Digital	R	Reserved			
10467	Digital	R	Reserved			
10468	Digital	R	Pump 1 Alarm	Ok	Alarm	Toggle
10469	Digital	R	Pump 2 Alarm	Ok	Alarm	Toggle
10470	Digital	R	Pump 3 Alarm	Ok	Alarm	Toggle
10471	Digital	R	Pump 4 Alarm	Ok	Alarm	Toggle
10472	Digital	R	Pump 5 Alarm	Ok	Alarm	Toggle
10473	Digital	R	Pump 6 Alarm	Ok	Alarm	Toggle
10474	Digital	R	Reserved			
10475	Digital	R	Reserved			
10476	Digital	R	Reserved			
10477	Digital	R	Reserved			
10478	Digital	R	Pump 1 Run feedback Alarm	Ok	Alarm	Toggle
10479	Digital	R	Pump 2 Run feedback Alarm	Ok	Alarm	Toggle
10480	Digital	R	Pump 3 Run feedback Alarm	Ok	Alarm	Toggle
10481	Digital	R	Pump 4 Run feedback Alarm	Ok	Alarm	Toggle
10482	Digital	R	Pump 5 Run feedback Alarm	Ok	Alarm	Toggle
10483	Digital	R	Pump 6 Run feedback Alarm	Ok	Alarm	Toggle

MODBUS ADDRESS	SIGNAL TYPE	READ/WRITE	DESCRIPTION	OFF STATE (0)	ON STATE (1)	TYPE
10484	Digital	R	Reserved			
10485	Digital	R	Reserved			
10486	Digital	R	Reserved			
10487	Digital	R	Reserved			
10488	Digital	R	Pump 1 Drive Fault	Ok	Alarm	Toggle
10489	Digital	R	Pump 2 Drive Fault	Ok	Alarm	Toggle
10490	Digital	R	Pump 3 Drive Fault	Ok	Alarm	Toggle
10491	Digital	R	Pump 4 Drive Fault	Ok	Alarm	Toggle
10492	Digital	R	Pump 5 Drive Fault	Ok	Alarm	Toggle
10493	Digital	R	Pump 6 Drive Fault	Ok	Alarm	Toggle
10494	Digital	R	Reserved			
10495	Digital	R	Reserved			
10496	Digital	R	Reserved			
10497	Digital	R	Reserved			
10498	Digital	R	Reserved			
10499	Digital	R	Reserved			
10500	Digital	R	Reserved			
10501	Digital	R	Reserved			
10502	Digital	R	Reserved			
10503	Digital	R	Reserved			
10504	Digital	R	Reserved			
10505	Digital	R	Reserved			
10506	Digital	R	Reserved			
10507	Digital	R	Reserved			
10508	Digital	R	Auto Bypass On			
10509	Digital	R	Pump 1 Bypass On	Off	On	Toggle
10510	Digital	R	Pump 2 Bypass On	Off	On	Toggle
10511	Digital	R	Pump 3 Bypass On	Off	On	Toggle
10512	Digital	R	Pump 4 Bypass On	Off	On	Toggle
10513	Digital	R	Pump 5 Bypass On	Off	On	Toggle
10514	Digital	R	Pump 6 Bypass On	Off	On	Toggle
10515	Digital	R	Pump 6 Bypass On	Off	On	Toggle
10516	Digital	R	Reserved			
10517	Digital	R	Reserved			
10518	Digital	R	Reserved			
10519	Digital	R	Reserved			

MODBUS ADDRESS	SIGNAL TYPE	READ/WRITE	DESCRIPTION	RANGE	REPRESENT	UNITS
551	Digital	R/W	Remote Start	Stop	Start	Toggle
552	Digital	R/W	Set Pump 1 Hand		Hand	Momentary
553	Digital	R/W	Set Pump 1 Off		Off	Momentary
554	Digital	R/W	Set Pump 1 Auto		Auto	Momentary
555	Digital	R/W	Set Pump 2 Hand		Hand	Momentary
556	Digital	R/W	Set Pump 2 Off		Off	Momentary
557	Digital	R/W	Set Pump 2 Auto		Auto	Momentary
558	Digital	R/W	Set Pump 3 Hand		Hand	Momentary
559	Digital	R/W	Set Pump 3 Off		Off	Momentary
560	Digital	R/W	Set Pump 3 Auto		Auto	Momentary
561	Digital	R/W	Set Pump 4 Hand		Hand	Momentary
562	Digital	R/W	Set Pump 4 Off		Off	Momentary
563	Digital	R/W	Set Pump 4 Auto		Auto	Momentary
564	Digital	R/W	Set Pump 5 Hand		Hand	Momentary
565	Digital	R/W	Set Pump 5 Off		Off	Momentary
566	Digital	R/W	Set Pump 5 Auto		Auto	Momentary
567	Digital	R/W	Set Pump 6 Hand		Hand	Momentary
568	Digital	R/W	Set Pump 6 Off		Off	Momentary
569	Digital	R/W	Set Pump 6 Auto		Auto	Momentary
570	Digital	R/W	Chiller/Boiler 1 Enabled (Note 7)	Disabled	Enabled	Toggle
571	Digital	R/W	Chiller/Boiler 2 Enabled	Disabled	Enabled	Toggle
572	Digital	R/W	Chiller/Boiler 3 Enabled	Disabled	Enabled	Toggle
573	Digital	R/W	Chiller/Boiler 4 Enabled	Disabled	Enabled	Toggle
574	Digital	R/W	Chiller/Boiler 5 Enabled	Disabled	Enabled	Toggle
575	Digital	R/W	Chiller/Boiler 6 Enabled	Disabled	Enabled	Toggle
576	Digital	R/W	Reserved			
577	Digital	R/W	Reserved			
578	Digital	R/W	Reserved			
579	Digital	R/W	Reserved			
580	Digital	R/W	Reserved			
581	Digital	R/W	Reserved			
582	Digital	R/W	Auto Bypass Reset		Reset	Toggle
583	Digital	R/W	Set Alarm Reset		Reset	Toggle

IPS 4000 Integrated pumping system
for variable primary application

DATA POINTS

8

MODBUS ADDRESS	SIGNAL TYPE	READ/WRITE	DESCRIPTION	RANGE	REPRESENT	UNITS
30201	Analog	R	Active Zone Error	-9999 to 9999	-999.9 to 999.9	
30202	Analog	R	Active Zone Value	0 to 9999	0.0 to 999.9	psi, ft, kPA, m, °F or °C
30203	Analog	R	Active Zone SP			
30204	Analog	R	Zone 1 Value			
30205	Analog	R	Zone 2 Value			
30206	Analog	R	Zone 3 Value			
30207	Analog	R	Zone 4 Value			
30208	Analog	R	Zone 5 Value			
30209	Analog	R	Zone 6 Value			
30210	Analog	R	Zone 7 Value			
30211	Analog	R	Zone 8 Value			
30212	Analog	R	Zone 9 Value			
30213	Analog	R	Zone 10 Value			
30214	Analog	R	Zone 11 Value			
30215	Analog	R	Zone 12 Value			
30216	Analog	R	Reserved			
30217	Analog	R	Reserved			
30218	Analog	R	Reserved			
30219	Analog	R	Reserved			
30220	Analog	R	Reserved			
30221	Analog	R	Reserved			
30222	Analog	R	Zone 1 Error	-9999 to 9999	-999.9 to 999.9	
30223	Analog	R	Zone 2 Error			
30224	Analog	R	Zone 3 Error			
30225	Analog	R	Zone 4 Error			
30226	Analog	R	Zone 5 Error			
30227	Analog	R	Zone 6 Error			
30228	Analog	R	Zone 7 Error			
30229	Analog	R	Zone 8 Error			
30230	Analog	R	Zone 9 Error			
30231	Analog	R	Zone 10 Error			
30232	Analog	R	Zone 11 Error			
30233	Analog	R	Zone 12 Error			
30234	Analog	R	Reserved			
30235	Analog	R	Reserved			
30236	Analog	R	Reserved			
30237	Analog	R	Reserved			
30238	Analog	R	Reserved			
30239	Analog	R	Reserved			
30240	Analog	R	Pump 1 Speed	0 to 1000	0.0 to 100.0	%
30241	Analog	R	Pump 2 Speed			
30242	Analog	R	Pump 3 Speed			
30243	Analog	R	Pump 4 Speed			
30244	Analog	R	Pump 5 Speed			
30245	Analog	R	Pump 6 Speed			

MODBUS ADDRESS	SIGNAL TYPE	READ/WRITE	DESCRIPTION	RANGE	REPRESENT	UNITS
30246	Analog	R	Reserved			
30247	Analog	R	Reserved			
30248	Analog	R	Reserved			
30249	Analog	R	Reserved			
30250	Analog	R	Temp Sensor Value	0 to 2120	0.0 to 212.0	°F or °C
30251	Analog	R	EOC Sensor Value	0 to 32000	0 to 32000	gpm
30252	Analog	R	Total Head	0 to 32767	0 to 3276.7	ft, psi, kPa
30253	Analog	R	Pump 1 Drive Amp	0 to 10000	0.0 to 1000.0	Amp
30254	Analog	R	Pump 1 Drive Volt AC			VAC
30255	Analog	R	Pump 1 Drive Power			kW
30256	Analog	R	Pump 1 Drive Speed Feedback	0 to 1000	0.0 to 100.0	%
30257	Analog	R	Pump 2 Drive Amp	0 to 10000	0.0 to 1000.0	Amp
30258	Analog	R	Pump 2 Drive Volt AC			VAC
30259	Analog	R	Pump 2 Drive Power			kW
30260	Analog	R	Pump 2 Drive Speed Feedback	0 to 1000	0.0 to 100.0	%
30261	Analog	R	Pump 3 Drive Amp	0 to 10000	0.0 to 1000.0	Amp
30262	Analog	R	Pump 3 Drive Volt AC			VAC
30263	Analog	R	Pump 3 Drive Power			kW
30264	Analog	R	Pump 3 Drive Speed Feedback	0 to 1000	0.0 to 100.0	%
30265	Analog	R	Pump 4 Drive Amp	0 to 10000	0.0 to 1000.0	Amp
30266	Analog	R	Pump 4 Drive Volt AC			VAC
30267	Analog	R	Pump 4 Drive Power			kW
30268	Analog	R	Pump 4 Drive Speed Feedback	0 to 1000	0.0 to 100.0	%
30269	Analog	R	Pump 5 Drive Amp	0 to 10000	0.0 to 1000.0	Amp
30270	Analog	R	Pump 5 Drive Volt AC			VAC
30271	Analog	R	Pump 5 Drive Power			kW
30272	Analog	R	Pump 5 Drive Speed Feedback	0 to 1000	0.0 to 100.0	%
30273	Analog	R	Pump 6 Drive Amp	0 to 10000	0.0 to 1000.0	Amp
30274	Analog	R	Pump 6 Drive Volt AC			VAC
30275	Analog	R	Pump 6 Drive Power			kW
30276	Analog	R	Pump 6 Drive Speed Feedback	0 to 1000	0.0 to 100.0	%
30277	Analog	R	Reserved			
30278	Analog	R	Reserved			
30279	Analog	R	Reserved			
30280	Analog	R	Reserved			
30281	Analog	R	Reserved			
30282	Analog	R	Reserved			
30283	Analog	R	Reserved			
30284	Analog	R	Reserved			
30285	Analog	R	Reserved			
30286	Analog	R	Reserved			
30287	Analog	R	Reserved			
30288	Analog	R	Reserved			
30289	Analog	R	Reserved			

IPS 4000 Integrated pumping system
for variable primary application

DATA POINTS

10

MODBUS ADDRESS	SIGNAL TYPE	READ/WRITE	DESCRIPTION	RANGE	REPRESENT	UNITS
30290	Analog	R	Reserved			
30291	Analog	R	Reserved			
30292	Analog	R	Reserved			
30293	Analog	R	Pump 1 Head	0 to 32767	0.0 to 3276.7	ft, psi, kPa
30294	Analog	R	Pump 2 Head			
30295	Analog	R	Pump 3 Head			
30296	Analog	R	Pump 4 Head			
30297	Analog	R	Pump 5 Head			
30298	Analog	R	Pump 6 Head			
30299	Analog	R	Reserved			
30300	Analog	R	Reserved			
30301	Analog	R	Reserved			
30302	Analog	R	Reserved			
30303	Analog	R	Reserved			
30304	Analog	R	Bypass Valve Position (Read only)	0 to 100.0	0 to 100.0	%
40351	Analog	R/W	Zone 1 SP	0 to 9999	0.0 to 999.9	psi, ft, kPA, m, °F or °C
40352	Analog	R/W	Zone 2 SP			
40353	Analog	R/W	Zone 3 SP			
40354	Analog	R/W	Zone 4 SP			
40355	Analog	R/W	Zone 5 SP			
40356	Analog	R/W	Zone 6 SP			
40357	Analog	R/W	Zone 7 SP			
40358	Analog	R/W	Zone 8 SP			
40359	Analog	R/W	Zone 9 SP			
40360	Analog	R/W	Zone 10 SP			
40361	Analog	R/W	Zone 11 SP			
40362	Analog	R/W	Zone 12 SP			
40363	Analog	R/W	Reserved			
40364	Analog	R/W	Reserved			
40365	Analog	R/W	Reserved			
40366	Analog	R/W	Reserved			
40367	Analog	R/W	Reserved			
40368	Analog	R/W	Reserved			
40369	Analog	R/W	Pump 1 Hand Speed	0 to 1000	0.0 to 100.0	%
40370	Analog	R/W	Pump 2 Hand Speed			
40371	Analog	R/W	Pump 3 Hand Speed			
40372	Analog	R/W	Pump 4 Hand Speed			
40373	Analog	R/W	Pump 5 Hand Speed			
40374	Analog	R/W	Pump 6 Hand Speed			
40375	Analog	R/W	Reserved			
40376	Analog	R/W	Reserved			
40377	Analog	R/W	Reserved			
40378	Analog	R/W	Reserved			
40379	Analog	R/W	Max Opening Valve (Note 3)	0 to 1000	0.0 to 100.0	%
40380	Analog	R/W	Reserved	0 to 9999	0.0 to 9999	gpm

MODBUS ADDRESS	SIGNAL TYPE	READ/WRITE	DESCRIPTION	RANGE	REPRESENT	UNITS
40381	Analog	R/W	Design Head	0 to 9999	0.0 to 999.9	ft,psi,bar
40382	Analog	R/W	Zero Flow Head			
40383	Analog	R/W	Reserved	0 to 9999	0.0 to 9999	gpm
40384	Analog	R/W	Head BEP	0 to 9999	0.0 to 999.9	ft,psi,bar
40385	Analog	R/W	Reserved			
40386	Analog	R/W	Reserved			
40387	Analog	R/W	Summer Design Head (Future use)			
40388	Analog	R/W	Summer Zero Flow Head (Future use)			
40389	Analog	R/W	Winter Design Head (Future use)			
40390	Analog	R/W	Winter Zero Flow Head (Future use)			
40391	Analog	R/W	Min Zero Flow Head DP SP (Future use)			
40392	Analog	R/W	Reserved			
40393	Analog	R/W	Reserved			
40394	Analog	R/W	Reserved			
40395	Analog	R/W	Reserved			
35151	Analog	R	Active Zone			
35152	Analog	R	EOC DP Sensor	0.0 to 3200.0		gpm
35153	Analog	R	Pump 1 Flow	0 to 32767	0 to 32767	gpm, lps, m ³ /hr
35154	Analog	R	Pump 2 Flow			
35155	Analog	R	Pump 3 Flow			
35156	Analog	R	Pump 4 Flow			
35157	Analog	R	Pump 5 Flow			
35158	Analog	R	Pump 6 Flow			
35159	Analog	R	Reserved			
35160	Analog	R	Reserved			
35161	Analog	R	Reserved			
35162	Analog	R	Reserved			
35163	Analog	R	System Flow	0 to 32767	0 to 327670	gpm
35164	Analog	R	Pump 1 Operating Run Hours	0 to 999		Hrs
35165	Analog	R	Pump 1 Operating Run KHours	0 to 32000		Hrs × 1000
35166	Analog	R	Pump 2 Operating Run Hours	0 to 999		Hrs
35167	Analog	R	Pump 2 Operating Run KHours	0 to 32000		Hrs × 1000
35168	Analog	R	Pump 3 Operating Run Hours	0 to 999		Hrs
35169	Analog	R	Pump 3 Operating Run KHours	0 to 32000		Hrs × 1000
35170	Analog	R	Pump 4 Operating Run Hours	0 to 999		Hrs
35171	Analog	R	Pump 4 Operating Run KHours	0 to 32000		Hrs × 1000
35172	Analog	R	Pump 5 Operating Run Hours	0 to 999		Hrs
35173	Analog	R	Pump 5 Operating Run KHours	0 to 32000		Hrs × 1000
35174	Analog	R	Pump 6 Operating Run Hours	0 to 999		Hrs
35175	Analog	R	Pump 6 Operating Run KHours	0 to 32000		Hrs × 1000
35176	Analog	R	Reserved			
35177	Analog	R	Reserved			
35178	Analog	R	Reserved			
35179	Analog	R	Reserved			

MODBUS ADDRESS	SIGNAL TYPE	READ/WRITE	DESCRIPTION	RANGE	REPRESENT	UNITS
35180	Analog	R	Reserved			
35181	Analog	R	Reserved			
35182	Analog	R	Reserved			
35183	Analog	R	Number of Pumps Running (Note 4)		0-6	
35184	Analog	R	Lead Pump ID		0-6	
35185	Analog	R	Reserved			
35186	Analog	R/W	Flow Design	0 to 32767	0 to 327670	gpm
35187	Analog	R/W	Flow BEP	0 to 32767	0 to 327670	gpm
35188	Analog	R/W	Number of Pumps		0-6	
35189	Analog	R/W	Lead Pump Switch Time		0-32767	Days
35190	Analog	R/W	Summer Design Flow (Future use)			
35191	Analog	R/W	Winter Design Flow (Future use)			
35192	Analog	R/W	Chiller/Boiler Min Flow (Note 5)			
35193	Analog	R/W	Chiller/Boiler Max Flow (Note 6)			
35194	Analog	R/W	Number of Active Chillers/Boilers (Future)			

NOTE

- 1 This alarm happens when the system flow is below the total chiller/boiler minimum flow for two minutes.
- 2 This alarm happens when the system flow is above the total chiller/boiler maximum flow for two minutes.
- 3 Write only value. Used for optimization of the system. Write the position of the system valve that is open the most. The IPS4000 will modulate pump speed to maintain this valve open at the setpoint entered on the system valves settings screen.
- 4 Only pumps in Auto are considered.
- 5 Write only value. Represents the total maximum flow of the active chillers/boilers. The IPS4000 will maintain the system flow below this value via pump speed.
- 6 Write only value. Represents the total minimum flow of the active chillers/boilers. The IPS4000 will maintain the system flow above this value via bypass valve and pump speed.
- 7 Write only values (for all 6 chiller/boilers). Indicate that a chiller/boiler is enabled, used by the IPS4000 to start/stop pumps.

BAS DATA POINTS - BACNET

BUILDING AUTOMATION SYSTEM - BACNET/IP, BACNET ETHERNET, OR BACNET MSTP

IPS 4000 Primary Communication Interface Rev 2015111 (Device ID: 77000)

SIGNAL TYPE	INSTANCE	NAME	DESCRIPTION	OFF STATE (0)	ON STATE (1)	TYPE
DO	100400	D100400	Sensor Alarm	Ok	Alarm	Toggle
DO	100401	D100401	System Alarm	Ok	Alarm	Toggle
DO	100402	D100402	Pump Alarm	Ok	Alarm	Toggle
DO	100403	D100403	Pump 1 in Hand mode		Hand	Toggle
DO	100404	D100404	Pump 1 in Off mode		Off	Toggle
DO	100405	D100405	Pump 1 in Auto mode		Auto	Toggle
DO	100406	D100406	Pump 2 in Hand mode		Hand	Toggle
DO	100407	D100407	Pump 2 in Off mode		Off	Toggle
DO	100408	D100408	Pump 2 in Auto mode		Auto	Toggle
DO	100409	D100409	Pump 3 in Hand mode		Hand	Toggle
DO	100410	D100410	Pump 3 in Off mode		Off	Toggle
DO	100411	D100411	Pump 3 in Auto mode		Auto	Toggle
DO	100412	D100412	Pump 4 in Hand mode		Hand	Toggle
DO	100413	D100413	Pump 4 in Off mode		Off	Toggle
DO	100414	D100414	Pump 4 in Auto mode		Auto	Toggle
DO	100415	D100415	Pump 5 in Hand mode		Hand	Toggle
DO	100416	D100416	Pump 5 in Off mode		Off	Toggle
DO	100417	D100417	Pump 5 in Auto mode		Auto	Toggle
DO	100418	D100418	Pump 6 in Hand mode		Hand	Toggle
DO	100419	D100419	Pump 6 in Off mode		Off	Toggle
DO	100420	D100420	Pump 6 in Auto mode		Auto	Toggle
DO	100421	D100421	Reserved			
DO	100422	D100422	Reserved			
DO	100423	D100423	Reserved			
DO	100424	D100424	Reserved			
DO	100425	D100425	Reserved			
DO	100426	D100426	Reserved			
DO	100427	D100427	Reserved			
DO	100428	D100428	Reserved			
DO	100429	D100429	Reserved			
DO	100430	D100430	Reserved			
DO	100431	D100431	Reserved			
DO	100432	D100432	Reserved			
DO	100433	D100433	Pump 1 Run Feedback	Stopped	Running	Toggle
DO	100434	D100434	Pump 2 Run Feedback	Stopped	Running	Toggle
DO	100435	D100435	Pump 3 Run Feedback	Stopped	Running	Toggle
DO	100436	D100436	Pump 4 Run Feedback	Stopped	Running	Toggle
DO	100437	D100437	Pump 5 Run feedback	Stopped	Running	Toggle
DO	100438	D100438	Pump 6 Run feedback	Stopped	Running	Toggle
DO	100439	D100439	Reserved			
DO	100440	D100440	Reserved			
DO	100441	D100441	Reserved			
DO	100442	D100442	Reserved			

IPS 4000 Integrated pumping system
for variable primary application

DATA POINTS

14

SIGNAL TYPE	INSTANCE	NAME	DESCRIPTION	OFF STATE (0)	ON STATE (1)	TYPE
DO	100443	D100443	Temperature Transmitter Failed	Ok	Alarm	Toggle
DO	100444	D100444	EOC DP Transmitter Failed	Ok	Alarm	Toggle
DO	100445	D100445	System Flow Transmitter Failed	Ok	Alarm	Toggle
DO	100446	D100446	Reserved			
DO	100447	D100447	Reserved			
DO	100448	D100448	All Zones DP Transmitters Failed	Ok	Alarm	Toggle
DO	100449	D100449	Zone 1 DP Transmitter Failed	Ok	Alarm	Toggle
DO	100450	D100450	Zone 2 DP Transmitter Failed	Ok	Alarm	Toggle
DO	100451	D100451	Zone 3 DP Transmitter Failed	Ok	Alarm	Toggle
DO	100452	D100452	Zone 4 DP Transmitter Failed	Ok	Alarm	Toggle
DO	100453	D100453	Zone 5 DP Transmitter Failed	Ok	Alarm	Toggle
DO	100454	D100454	Zone 6 DP Transmitter Failed	Ok	Alarm	Toggle
DO	100455	D100455	Zone 7 DP Transmitter Failed	Ok	Alarm	Toggle
DO	100456	D100456	Zone 8 DP Transmitter Failed	Ok	Alarm	Toggle
DO	100457	D100457	Zone 9 DP Transmitter Failed	Ok	Alarm	Toggle
DO	100458	D100458	Zone 10 DP Transmitter Failed	Ok	Alarm	Toggle
DO	100459	D100459	Zone 11 DP Transmitter Failed	Ok	Alarm	Toggle
DO	100460	D100460	Zone 12 DP Transmitter Failed	Ok	Alarm	Toggle
DO	100461	D100461	Chiller/Boiler Min Flow Alarm (Note 1)	Ok	Alarm	Toggle
DO	100462	D100462	Chiller/Boiler Max Flow Alarm (Note 2)	Ok	Alarm	Toggle
DO	100463	D100463	Reserved			
DO	100464	D100464	Reserved			
DO	100465	D100465	Reserved			
DO	100466	D100466	Reserved			
DO	100467	D100467	Pump 1 Alarm	Ok	Alarm	Toggle
DO	100468	D100468	Pump 2 Alarm	Ok	Alarm	Toggle
DO	100469	D100469	Pump 3 Alarm	Ok	Alarm	Toggle
DO	100470	D100470	Pump 4 Alarm	Ok	Alarm	Toggle
DO	100471	D100471	Pump 5 Alarm	Ok	Alarm	Toggle
DO	100472	D100472	Pump 6 Alarm	Ok	Alarm	Toggle
DO	100473	D100473	Reserved			
DO	100474	D100474	Reserved			
DO	100475	D100475	Reserved			
DO	100476	D100476	Reserved			
DO	100477	D100477	Pump 1 Run feedback Alarm	Ok	Alarm	Toggle
DO	100478	D100478	Pump 2 Run feedback Alarm	Ok	Alarm	Toggle
DO	100479	D100479	Pump 3 Run feedback Alarm	Ok	Alarm	Toggle
DO	100480	D100480	Pump 4 Run feedback Alarm	Ok	Alarm	Toggle
DO	100481	D100481	Pump 5 Run feedback Alarm	Ok	Alarm	Toggle
DO	100482	D100482	Pump 6 Run feedback Alarm	Ok	Alarm	Toggle
DO	100483	D100483	Reserved			
DO	100484	D100484	Reserved			
DO	100485	D100485	Reserved			
DO	100486	D100486	Reserved			
DO	100487	D100487	Pump 1 Drive Fault	Ok	Alarm	Toggle
DO	100488	D100488	Pump 2 Drive Fault	Ok	Alarm	Toggle
DO	100489	D100489	Pump 3 Drive Fault	Ok	Alarm	Toggle
DO	100490	D100490	Pump 4 Drive Fault	Ok	Alarm	Toggle

SIGNAL TYPE	INSTANCE	NAME	DESCRIPTION	OFF STATE (0)	ON STATE (1)	TYPE
DO	100491	D100491	Pump 5 Drive Fault	Ok	Alarm	Toggle
DO	100492	D100492	Pump 6 Drive Fault	Ok	Alarm	Toggle
DO	100493	D100493	Reserved			
DO	100494	D100494	Reserved			
DO	100495	D100495	Reserved			
DO	100496	D100496	Reserved			
DO	100497	D100497	Reserved			
DO	100498	D100498	Reserved			
DO	100499	D100499	Reserved			
DO	100500	D100500	Reserved			
DO	100501	D100501	Reserved			
DO	100502	D100502	Reserved			
DO	100503	D100503	Reserved			
DO	100504	D100504	Reserved			
DO	100505	D100505	Reserved			
DO	100506	D100506	Reserved			
DO	100507	D100507	Auto Bypass On	Off	On	Toggle
DO	100508	D100508	Pump 1 Bypass On	Off	On	Toggle
DO	100509	D100509	Pump 2 Bypass On	Off	On	Toggle
DO	100510	D100510	Pump 3 Bypass On	Off	On	Toggle
DO	100511	D100511	Pump 4 Bypass On	Off	On	Toggle
DO	100512	D100512	Pump 5 Bypass On	Off	On	Toggle
DO	100513	D100513	Pump 6 Bypass On	Off	On	Toggle
DO	100514	D100514	Reserved			
DO	100515	D100515	Reserved			
DO	100516	D100516	Reserved			
DO	100517	D100517	Reserved			
DO	100518	D100518	Reserved			
DI	100550	D100550	Remote Start	Stop	Start	Toggle
DI	100551	D100551	Set Pump 1 Hand		Hand	Momentary
DI	100552	D100552	Set Pump 1 Off		Off	Momentary
DI	100553	D100553	Set Pump 1 Auto		Auto	Momentary
DI	100554	D100554	Set Pump 2 Hand		Hand	Momentary
DI	100555	D100555	Set Pump 2 Off		Off	Momentary
DI	100556	D100556	Set Pump 2 Auto		Auto	Momentary
DI	100557	D100557	Set Pump 3 Hand		Hand	Momentary
DI	100558	D100558	Set Pump 3 Off		Off	Momentary
DI	100559	D100559	Set Pump 3 Auto		Auto	Momentary
DI	100560	D100560	Set Pump 4 Hand		Hand	Momentary
DI	100561	D100561	Set Pump 4 Off		Off	Momentary
DI	100562	D100562	Set Pump 4 Auto		Auto	Momentary
DI	100563	D100563	Set Pump 5 Hand		Hand	Momentary
DI	100564	D100564	Set Pump 5 Off		Off	Momentary
DI	100565	D100565	Set Pump 5 Auto		Auto	Momentary
DI	100566	D100566	Set Pump 6 Hand		Hand	Momentary
DI	100567	D100567	Set Pump 6 Off		Off	Momentary
DI	100568	D100568	Set Pump 6 Auto		Auto	Momentary
DI	100569	D100569	Chiller/Boiler 1 Enabled (Note 7)	Disabled	Enabled	Toggle

SIGNAL TYPE	INSTANCE	NAME	DESCRIPTION	OFF STATE (0)	ON STATE (1)	TYPE
DI	100570	D100570	Chiller/Boiler 2 Enabled	Disabled	Enabled	Toggle
DI	100571	D100571	Chiller/Boiler 3 Enabled	Disabled	Enabled	Toggle
DI	100572	D100572	Chiller/Boiler 4 Enabled	Disabled	Enabled	Toggle
DI	100573	D100573	Chiller/Boiler 5 Enabled	Disabled	Enabled	Toggle
DI	100574	D100574	Chiller/Boiler 6 Enabled	Disabled	Enabled	Toggle
DI	100575	D100575	Reserved			
DI	100576	D100576	Reserved			
DI	100577	D100577	Reserved			
DI	100578	D100578	Reserved			
DI	100579	D100579	Reserved			
DI	100580	D100580	Reserved			
DI	100581	D100581	Auto Bypass Reset		Reset	Toggle
DI	100582	D100582	Set Alarm Reset		Reset	Toggle

SIGNAL TYPE	INSTANCE	NAME	DESCRIPTION	RANGE	REPRESENT	UNITS
AO	100200	A100200	Active Zone Error	-9999 to 9999	-999.9 to 999.9	
AO	100201	A100201	Active Zone Value	0 to 9999	0.0 to 999.9	psi, ft, kPA, m, °F or °C
AO	100202	A100202	Active Zone SP			
AO	100203	A100203	Zone 1 Value			
AO	100204	A100204	Zone 2 Value			
AO	100205	A100205	Zone 3 Value			
AO	100206	A100206	Zone 4 Value			
AO	100207	A100207	Zone 5 Value			
AO	100208	A100208	Zone 6 Value			
AO	100209	A100209	Zone 7 Value			
AO	100210	A100210	Zone 8 Value			
AO	100211	A100211	Zone 9 Value			
AO	100212	A100212	Zone 10 Value			
AO	100213	A100213	Zone 11 Value			
AO	100214	A100214	Zone 12 Value			
AO	100215	A100215	Reserved			
AO	100216	A100216	Reserved			
AO	100217	A100217	Reserved			
AO	100218	A100218	Reserved			
AO	100219	A100219	Reserved			
AO	100220	A100220	Reserved			
AO	100221	A100221	Zone 1 Error	-9999 to 9999	-999.9 to 999.9	
AO	100222	A100222	Zone 2 Error			
AO	100223	A100223	Zone 3 Error			
AO	100224	A100224	Zone 4 Error			
AO	100225	A100225	Zone 5 Error			
AO	100226	A100226	Zone 6 Error			
AO	100227	A100227	Zone 7 Error			
AO	100228	A100228	Zone 8 Error			
AO	100229	A100229	Zone 9 Error			
AO	100230	A100230	Zone 10 Error			
AO	100231	A100231	Zone 11 Error			
AO	100232	A100232	Zone 12 Error			
AO	100233	A100233	Reserved			

SIGNAL TYPE	INSTANCE	NAME	DESCRIPTION	RANGE	REPRESENT	UNITS
AO	100234	A100234	Reserved			
AO	100235	A100235	Reserved			
AO	100236	A100236	Reserved			
AO	100237	A100237	Reserved			
AO	100238	A100238	Reserved			
AO	100239	A100239	Pump 1 Speed	0 to 1000	0.0 to 100.0	%
AO	100240	A100240	Pump 2 Speed			
AO	100241	A100241	Pump 3 Speed			
AO	100242	A100242	Pump 4 Speed			
AO	100243	A100243	Pump 5 Speed			
AO	100244	A100244	Pump 6 Speed			
AO	100245	A100245	Reserved			
AO	100246	A100246	Reserved			
AO	100247	A100247	Reserved			
AO	100248	A100248	Reserved			
AO	100249	A100249	Temp Sensor Value	0 to 2120	0.0 to 212.0	°F or °C
AO	100250	A100250	Eoc Sensor Value	0 to 32000	0.0 to 3200.0	psi, ft, kPA, m, °F or °C
AO	100251	A100251	Total Head	-32000 to 32000	-3200.0 to 3200.0	
AO	100252	A100252	Pump 1 Drive Amp	0 to 10000	0.0 to 1000.0	Amp
AO	100253	A100253	Pump 1 Drive Volt AC			VAC
AO	100254	A100254	Pump 1 Drive Power			kW
AO	100255	A100255	Pump 1 Drive Speed Feedback	0 to 1000	0.0 to 100.0	%
AO	100256	A100256	Pump 2 Drive Amp	0 to 10000	0.0 to 1000.0	Amp
AO	100257	A100257	Pump 2 Drive Volt AC			VAC
AO	100258	A100258	Pump 2 Drive Power			kW
AO	100259	A100259	Pump 2 Drive Speed Feedback	0 to 1000	0.0 to 100.0	%
AO	100260	A100260	Pump 3 Drive Amp	0 to 10000	0.0 to 1000.0	Amp
AO	100261	A100261	Pump 3 Drive Volt AC			VAC
AO	100262	A100262	Pump 3 Drive Power			kW
AO	100263	A100263	Pump 3 Drive Speed Feedback	0 to 1000	0.0 to 100.0	%
AO	100264	A100264	Pump 4 Drive Amp	0 to 10000	0.0 to 1000.0	Amp
AO	100265	A100265	Pump 4 Drive Volt AC			VAC
AO	100266	A100266	Pump 4 Drive Power			kW
AO	100267	A100267	Pump 4 Drive Speed Feedback	0 to 1000	0.0 to 100.0	%
AO	100268	A100268	Pump 5 Drive Amp	0 to 10000	0.0 to 1000.0	Amp
AO	100269	A100269	Pump 5 Drive Volt AC			VAC
AO	100270	A100270	Pump 5 Drive Power			kW
AO	100271	A100271	Pump 5 Drive Speed Feedback	0 to 1000	0.0 to 100.0	%
AO	100272	A100272	Pump 6 Drive Amp	0 to 10000	0.0 to 1000.0	Amp
AO	100273	A100273	Pump 6 Drive Volt AC			VAC
AO	100274	A100274	Pump 6 Drive Power			kW
AO	100275	A100275	Pump 6 Drive Speed Feedback	0 to 1000	0.0 to 100.0	%
AO	100276	A100276	Reserved			
AO	100277	A100277	Reserved			
AO	100278	A100278	Reserved			
AO	100279	A100279	Reserved			
AO	100280	A100280	Reserved			
AO	100281	A100281	Reserved			
AO	100282	A100282	Reserved			

SIGNAL TYPE	INSTANCE	NAME	DESCRIPTION	RANGE	REPRESENT	UNITS
AO	100283	A100283	Reserved			
AO	100284	A100284	Reserved			
AO	100285	A100285	Reserved			
AI	100286	A100286	Reserved			
AI	100287	A100287	Reserved			
AI	100288	A100288	Reserved			
AI	100289	A100289	Reserved			
AI	100290	A100290	Reserved			
AI	100291	A100291	Reserved			
AI	100292	A100292	Pump 1 Head	0 to 32767	0 to 3276.7	ft, psi, kPa
AI	100293	A100293	Pump 2 Head			
AI	100294	A100294	Pump 3 Head			
AI	100295	A100295	Pump 4 Head			
AI	100296	A100296	Pump 5 Head			
AI	100297	A100297	Pump 6 Head			
AI	100298	A100298	Reserved			
AI	100299	A100299	Reserved			
AI	100300	A100300	Reserved			
AI	100301	A100301	Reserved			
AI	100302	A100302	Reserved			
AI	100303	A100303	Bypass Valve Position (Read only)	0 to 100.0	0 to 100.0	%
AI	100350	A100350	Zone 1 SP	0 to 9999	0.0 to 999.9	psi, ft, kPA, m, °F or °C
AI	100351	A100351	Zone 2 SP			
AI	100352	A100352	Zone 3 SP			
AI	100353	A100353	Zone 4 SP			
AI	100354	A100354	Zone 5 SP			
AI	100355	A100355	Zone 6 SP			
AI	100356	A100356	Zone 7 SP			
AI	100357	A100357	Zone 8 SP			
AI	100358	A100358	Zone 9 SP			
AI	100359	A100359	Zone 10 SP			
AI	100360	A100360	Zone 11 SP			
AI	100361	A100361	Zone 12 SP			
AI	100362	A100362	Reserved			
AI	100363	A100363	Reserved			
AI	100364	A100364	Reserved			
AI	100365	A100365	Reserved			
AI	100366	A100366	Reserved			
AI	100367	A100367	Reserved			
AI	100368	A100368	Pump 1 Hand Speed	0 to 1000	0.0 to 100.0	%
AI	100369	A100369	Pump 2 Hand Speed			
AI	100370	A100370	Pump 3 Hand Speed			
AI	100371	A100371	Pump 4 Hand Speed			
AI	100372	A100372	Pump 5 Hand Speed			
AI	100373	A100373	Pump 6 Hand Speed			
AI	100374	A100374	Reserved			
AI	100375	A100375	Reserved			
AI	100376	A100376	Reserved			
AI	100377	A100377	Reserved			
AI	100378	A100378	Max Opening Valve (Note 3)	0 to 1000	0.0 to 100.0	%

SIGNAL TYPE	INSTANCE	NAME	DESCRIPTION	RANGE	REPRESENT	UNITS
AI	100379	A100379	Reserved			
AI	100380	A100380	Design Head	0 to 9999	0.0 to 999.9	ft,psi,bar
AI	100381	A100381	Zero Flow Head			
AI	100382	A100382	Reserved			
AI	100383	A100383	Head BEP	0 to 9999	0.0 to 999.9	ft,psi,bar
AI	100384	A100384	Reserved			
AI	100385	A100385	Reserved			
AI	100386	A100386	Summer Design Head (Future use)			
AI	100387	A100387	Summer Zero Flow Head (Future use)			
AI	100388	A100388	Winter Design Head (Future use)			
AI	100389	A100389	Winter Zero Flow Head (Future use)			
AI	100390	A100390	Min Zero Flow Head DP SP (Future)			
AI	100391	A100391	Reserved			
AO	200150	I200150	Active Zone			
AO	200151	I200151	EOC DP Sensor	0.0 to 3200.0		ft,psi,bar
AO	200152	I200152	Pump 1 Flow	0 to 32767	0 to 32767	gpm, lps, m ³ /hr
AO	200153	I200153	Pump 2 Flow			
AO	200154	I200154	Pump 3 Flow			
AO	200155	I200155	Pump 4 Flow			
AO	200156	I200156	Pump 5 Flow			
AO	200157	I200157	Pump 6 Flow			
AO	200158	I200158	Reserved			
AO	200159	I200159	Reserved			
AO	200160	I200160	Reserved			
AO	200161	I200161	Reserved			
AO	200162	I200162	System Flow	0 to 32767	0 to 327670	gpm
AO	200163	I200163	Pump 1 Operating Run Hours	0 to 999		Hrs
AO	200164	I200164	Pump 1 Operating Run KHours	0 to 32000		Hrs x 1000
AO	200165	I200165	Pump 2 Operating Run Hours	0 to 999		Hrs
AO	200166	I200166	Pump 2 Operating Run KHours	0 to 32000		Hrs x 1000
AO	200167	I200167	Pump 3 Operating Run Hours	0 to 999		Hrs
AO	200168	I200168	Pump 3 Operating Run KHours	0 to 32000		Hrs x 1000
AO	200169	I200169	Pump 4 Operating Run Hours	0 to 999		Hrs
AO	200170	I200170	Pump 4 Operating Run KHours	0 to 32000		Hrs x 1000
AO	200171	I200171	Pump 5 Operating Run Hours	0 to 999		Hrs
AO	200172	I200172	Pump 5 Operating Run KHours	0 to 32000		Hrs x 1000
AO	200173	I200173	Pump 6 Operating Run Hours	0 to 999		Hrs
AO	200174	I200174	Pump 6 Operating Run KHours	0 to 32000		Hrs x 1000
AO	200175	I200175	Reserved			
AO	200176	I200176	Reserved			
AO	200177	I200177	Reserved			
AO	200178	I200178	Reserved			
AO	200179	I200179	Reserved			
AO	200180	I200180	Reserved			
AO	200181	I200181	Reserved			
AO	200182	I200182	Number of Pumps Running (Note 4)	0-6		
AO	200183	I200183	Lead Pump ID	0-6		
AO	200184	I200184	Reserved			
AO	200185	I200185	Flow Design	0 to 32767	0 to 327670	gpm
AO	200186	I200186	Flow BEP	0 to 32767	0 to 327670	gpm

20

SIGNAL TYPE	INSTANCE	NAME	DESCRIPTION	RANGE	REPRESENT	UNITS
AO	200187	I200187	Number of Pumps	0-6		
AO	200188	I200188	Lead Pump Switch Time	0-32767		Days
AO	200189	I200189	Summer Design Flow (Future use)			
AO	200190	I200190	Winter Design Flow (Future use)			
AO	200191	I200191	Chiller/Boiler Min Flow (Note 5)			
AO	200192	I200192	Chiller/Boiler Max Flow (Note 6)			
AO	200193	I200193	Number of Active Chillers/Boilers (Future)			

NOTE

- 1 This alarm happens when the system flow is below the total chiller/boiler minimum flow for two minutes.
- 2 This alarm happens when the system flow is above the total chiller/boiler maximum flow for two minutes.
- 3 Write only value. Used for the system optimization Write the position of the system valve that is open the most. The IPS4000 will modulate pump speed to maintain this valve open at the setpoint entered on the system valves settings screen.
- 4 Only pumps in Auto are considered.
- 5 Write only value. Represents the total maximum flow of the active chillers/boilers. The IPS4000 will maintain the system flow below this value via pump speed.
- 6 Write only value. Represents the total minimum flow of the active chillers/boilers. The IPS4000 will maintain the system flow above this value via bypass valve and pump speed.
- 7 Write only values (for all 6 chillers/boilers). Indicate that a chiller/boiler is enabled, used by the IPS4000 to start/stop pumps.

TORONTO
+1 416 755 2291

BUFFALO
+1 716 693 8813

BIRMINGHAM
+44 (0) 8444 145 145

MANCHESTER
+44 (0) 8444 145 145

BANGALORE
+91 (0) 80 4906 3555

SHANGHAI
+86 21 3756 6696

SÃO PAULO
+55 11 4781 5500