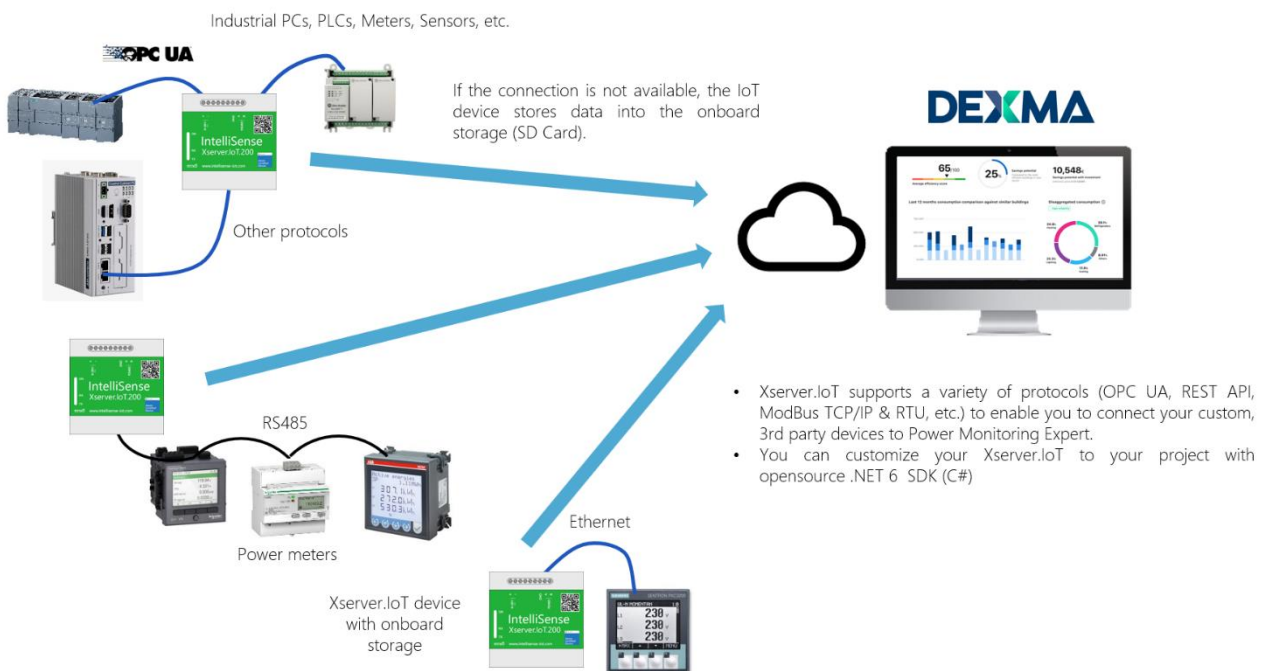


XSERVER.IOT.200 DEXMA Connectivity Guide

Introduction

This document describes how to connect Xserver.IoT.200 device to DEXMA EM Platform.

XSERVER.IOT CONNECTIVITY TO DEXMA EM PLATFORM



Step 1: Prerequisites

You should have the following items ready before beginning the process:

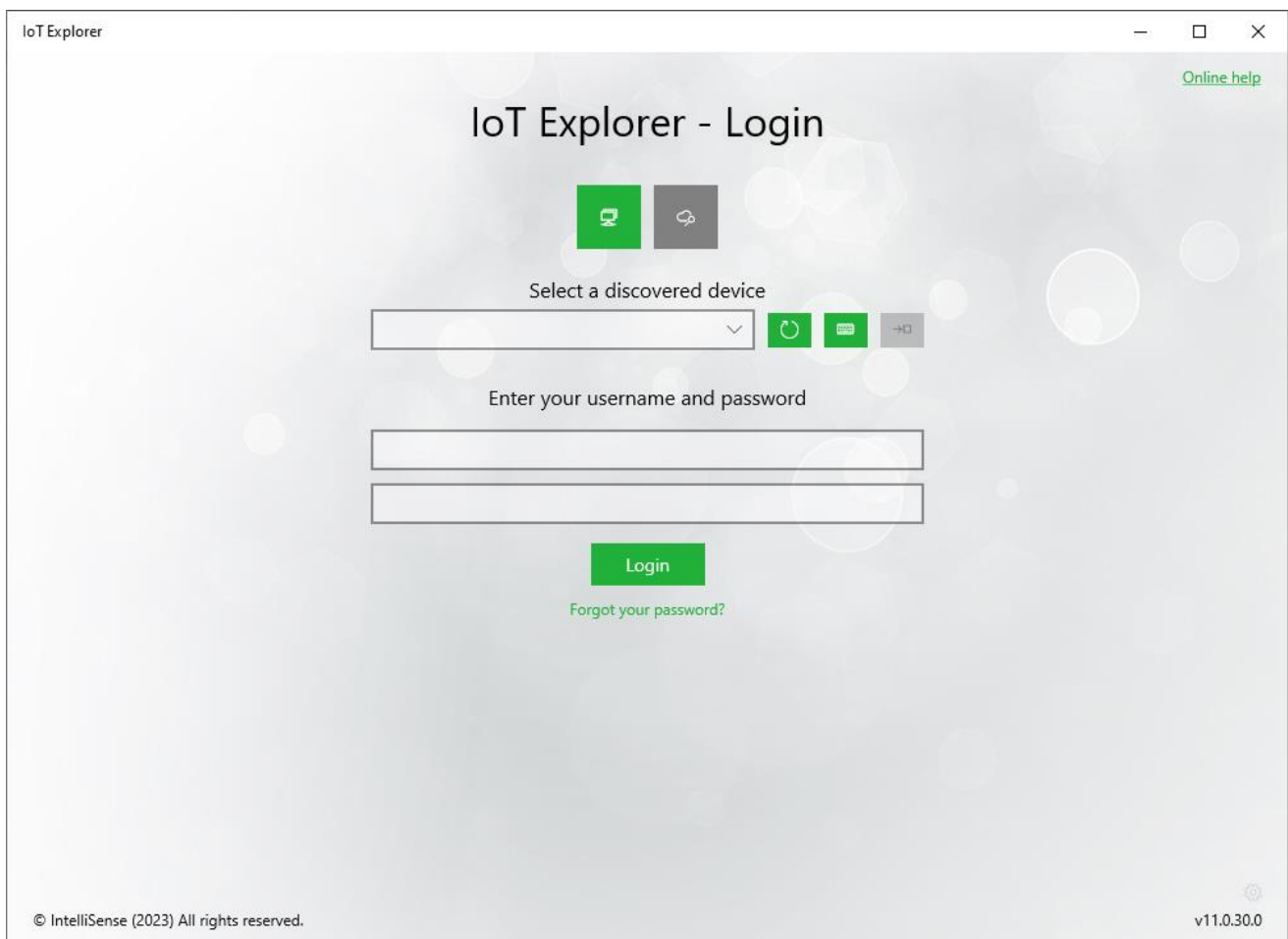
- DEXMA EM Platform access
- Install IoT Explorer from Microsoft Store or IntelliSense website ([more details](#))
- Install DEXMA extension (DEXMAJSONInsertionAPI) to Xserver.IoT

Step 2: Install DEXMA extension to Xserver.IoT

Installation requirements:

- Required Xserver.IoT firmware, minimum version: 11.0.34
 - Required IoT Explorer, minimum version: 11.0.30
- a) Run IoT Explorer and login to the Xserver.IoT.200 with local connection (IoT Explorer automatically detects devices on the local network)

Default username and password: admin, admin



IoT Explorer

Online help

IoT Explorer - Login

Select a discovered device

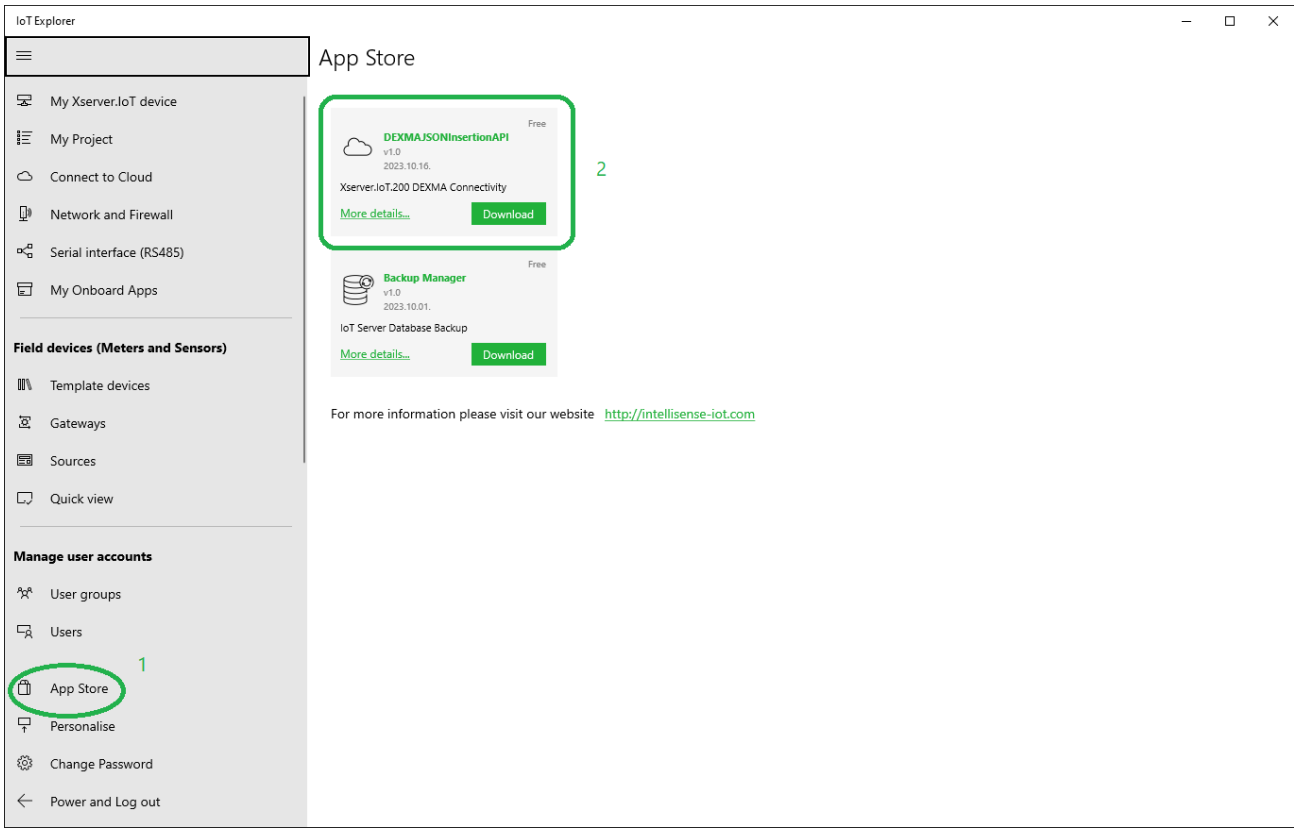
Enter your username and password

Login

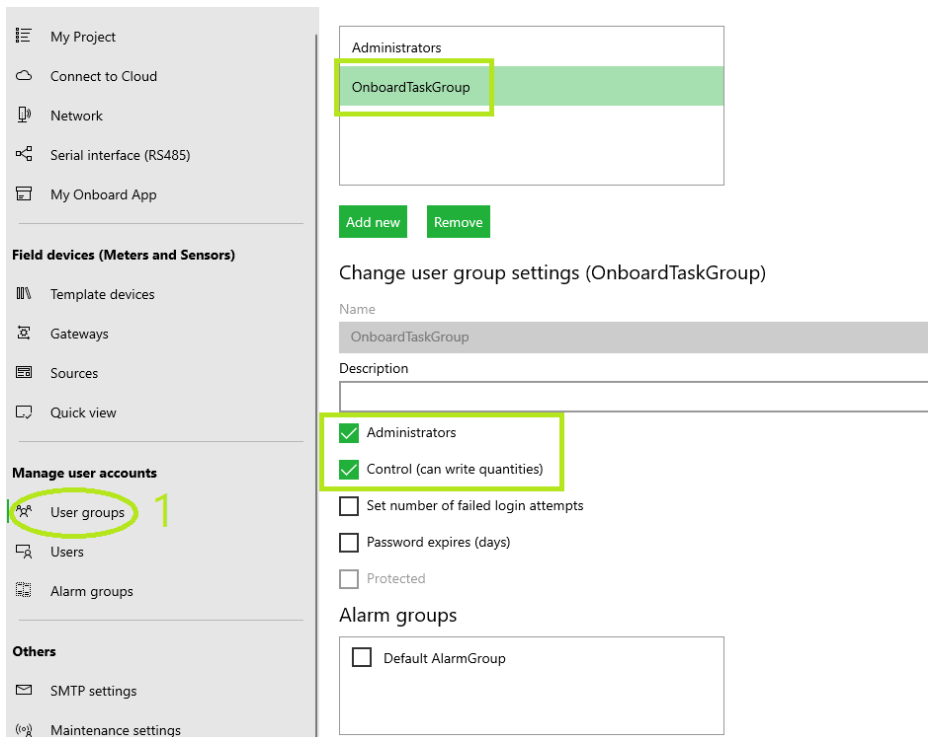
Forgot your password?

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b) Download DEXMA extension (DEXMAJSONInsertionAPI)



c) Configure service access, add User group and User and assigning permissions



User name: onboardtask, Password: onboardtask

After added the user, you have to click "Apply changes to services" button.

d) Install DEXMAJSONInsertionAPI

IoT Explorer

My Onboard Apps

Actions:

[Upload App from Computer to Azure Storage](#)

Task name:

[Download App from Azure Storage to Computer](#) [Download App from Azure Storage to IoT device](#)

Important! The file name must be XserverIoTOnboardTask.YOURTASKNAME.zip.

Xserver.IoT Device Onboard App Manager

Important! Each process runs in the background, so make sure before you start another process that the previous one is complete. You can check the progress of the processes in the Onboard App Manager Event log.

Downloaded Apps:

XserverIoTOnboardTask.DEXMAJSONInsertionAPI

[Install App](#)

Applications:

Task name	Status	Start	Accumulated CPU %	Accumulated Memory %
DEXMAJSONInsertionAPI	Active	16:41:29	0.7	3.7

[Run App](#) [Stop App](#) [Uninstall App](#)

After the installation, click the Run app button to launch the app. Before starting the uninstallation, click the Stop app button.

e) Configure connection to DEXMA EM Platform

Onboard App Parameters

Config

`{"GatewayKey":"xxxx","GatewayToken":"yyyyy","DensityMaxFreq":15,"Debug":false}`

Properties

[Save and Update](#)

Connection string: {"GatewayKey":"xxxx","GatewayToken":"yyyyy","DensityMaxFreq":15,"Debug":false}

Debug mode:

If you set the Debug parameter to true, the connection information is shown in the Properties field.

Onboard App Parameters

Config

`{"GatewayKey":"ISIoT_gw","GatewayToken":"xxxxxx","DensityMaxFreq":15,"Debug":true}`

Properties

`{"LastUpdate":"16/10/2023 23:59:09","DEXMAMessageNumber":29,"DEXMAComErrFlag":false,"MemoryLogPufferSize":0,"OnboardStorageFiles":0}`

[Save and Update](#)

[Click here, more details about DEXMA gateway security information.](#)

After changing the config parameter, you have to restart the service as follows:

Xserver.IoT Device Onboard App Manager

Important! Each process runs in the background, so make sure before you start another process that the previous one is complete.
You can check the progress of the processes in the Onboard App Manager Event log.

Downloaded Apps:

XserverIoTOnboardTask.DEXMAJSONInsertionAPI

Install App

Applications:

Task name	Status	Start	Accumulated CPU %	Accumulated Memory %
DEXMAJSONInsertionAPI	Active	16:41:29	0.7	3.7

Run App **Stop App** **Uninstall App**

After the installation, click the Run app button to launch the app.
Before starting the uninstallation, click the Stop app button.

Step 3: Logging energy meter(s) to DEXMA EM Platform

a) Add template device(s)

The screenshot shows the IoT Explorer interface for a DEXMA Demo (10.29.2.101) admin user. The left sidebar shows the navigation menu with 'Field devices (Meters and Sensors)' selected, and 'Template devices' highlighted. The main window displays the configuration for a 'PM5000' template device. The configuration includes a list of quantities (Active energy, Active power) and detailed Modbus register properties for 'Active energy'.

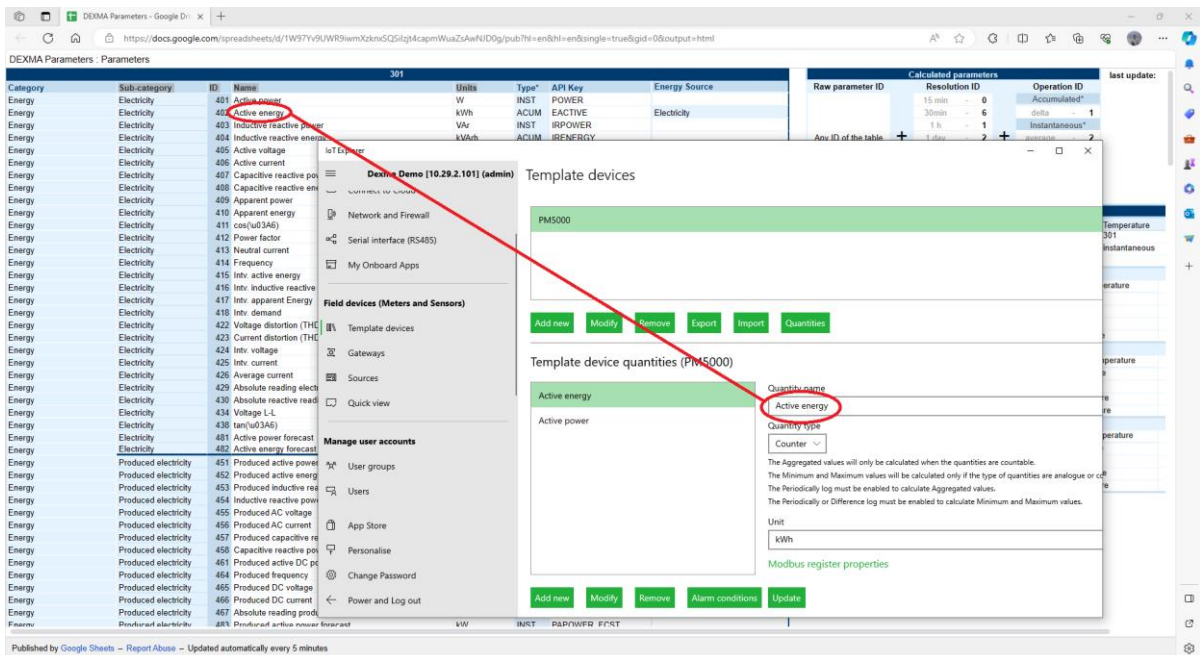
Template devices

PM5000

Template device quantities (PM5000)

Quantity name	Quantity type	Unit	Modbus register properties
Active energy	Counter	kWh	Register type: Holding Register Data type: UINT64 [R4.R3.R2.R1] Quantity/Value = ((DataValue and Mask) * Scale * Multiplier) - Offset Register address: 3207 Start register 0 => 40001 Multiplier: 0.001

Important!!! The Quantity name must be the same as the name in the parameter list of DEXMA (case sensitive).

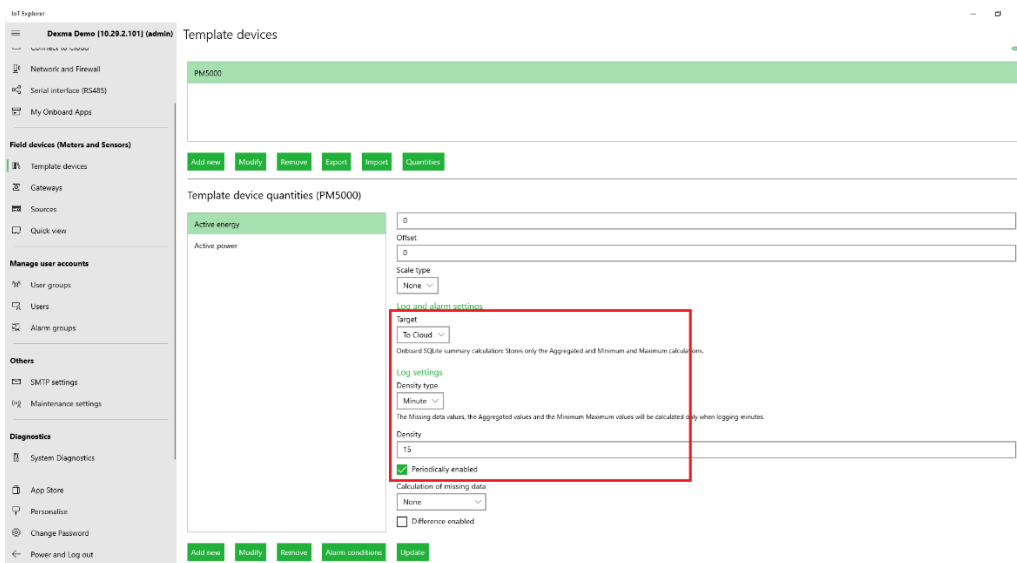


[Click here, more details about DEXMA Parameters](#)

[Click here, more details about Add New Parameter\(s\)](#)

Set the quantity log settings:

Important!!! The DEXMA EM platform supports log with a maximum data density of 15 minutes.



b) Add Source(s) and Click "Apply changes to services" button

List of DEXMA Parameters

SubCategory	ID	Name	Units	Type
Electricity	401	Active power	W	INST
Electricity	402	Active energy	kWh	ACUM
Electricity	403	Inductive reactive power	VAr	INST
Electricity	404	Inductive reactive energy	kVArh	ACUM
Electricity	405	Active voltage	V	INST
Electricity	406	Active current	A	INST
Electricity	407	Capacitive reactive power	VAr	INST
Electricity	408	Capacitive reactive energy	kVArh	ACUM
Electricity	409	Apparent power	VA	INST
Electricity	410	Apparent energy	kVAh	ACUM
Electricity	411	cos phi	-	INST
Electricity	412	Power factor	-	INST
Electricity	413	Neutral current	A	INST
Electricity	414	Frequency	Hz	INST
Electricity	415	Intv. active energy	kWh	INST
Electricity	416	Intv. inductive reactive energy	kVArh	INST
Electricity	417	Intv. apparent Energy	kVAh	INST
Electricity	418	Intv. demand	W	INST
Electricity	422	Voltage distortion (THD-total harmonic distortion)	%	INST
Electricity	423	Current distortion (THD-total harmonic distortion)	%	INST
Electricity	424	Intv. voltage	V	INST
Electricity	425	Intv. current	A	INST
Electricity	426	Average current	A	INST
Electricity	429	Absolute reading electricity meter	kWh	ACUM
Electricity	430	Absolute reactive reading electricity meter	kVArh	ACUM
Electricity	434	Voltage L-L	V	INST
Electricity	438	tan phi		INST
Electricity	481	Active power forecast	kW	INST
Electricity	482	Active energy forecast	kWh	ACUM
Produced electricity	451	Produced active power	W	INST
Produced electricity	452	Produced active energy	kWh	ACUM
Produced electricity	453	Produced inductive reactive power	VAr	INST
Produced electricity	454	Inductive reactive energy	kVArh	ACUM
Produced electricity	455	Produced AC voltage	V	INST

Produced electricity	456	Produced AC current	A	INST
Produced electricity	457	Produced capacitive reactive power	VAr	INST
Produced electricity	458	Capacitive reactive energy	kVArh	ACUM
Produced electricity	461	Produced active DC power	W	INST
Produced electricity	464	Produced frequency	Hz	INST
Produced electricity	465	Produced DC voltage	V	INST
Produced electricity	466	Produced DC current	A	INST
Produced electricity	467	Absolute reading produced active energy	kWh	ACUM
Produced electricity	483	Produced active power forecast	kW	INST
Produced electricity	484	Produced active energy forecast	kWh	ACUM
Gas	419	Gas volume	m ³	ACUM
Gas	420	Gas energy	kWh	ACUM
Gas	421	Normalised gas volume	Nm ³	ACUM
Gas	489	Gas volume forecast	m ³	ACUM
Gas	490	Gas energy forecast	kWh	ACUM
Gas	491	Normalised gas volume forecast	Nm ³	ACUM
Gas	530	HV (V) - Heating value (volume)	kWh/m ³	INST
Gas	532	Pressure temperature compressibility (PTZ)		INST
Gas	533	Gas conversion factor	kWh/m ³	INST
Gas	831	Differential pressure	mbar	INST
Gas	851	Gas flow (standard volume)	Sm ³ /h	INST
Gas	852	Normalised gas flow	Nm ³ /h	INST
LNG	470	Liquefied natural gas mass (LNG)	kg	ACUM
LNG	471	Liquefied natural gas energy (LNG)	kWh	ACUM
LNG	494	Liquefied natural gas mass (LNG) forecast	kg	ACUM
LNG	495	Liquefied natural gas energy (LNG) forecast	kWh	ACUM
LPG	474	Liquified petroleum gas (LPG) mass	kg	ACUM
Diesel	432	Diesel Fuel volume	m ³	ACUM
Diesel	433	Diesel energy	kWh	ACUM
Diesel	492	Diesel fuel volume forecast	m ³	ACUM
Diesel	493	Diesel fuel energy forecast	kWh	ACUM
Gasoline	508	Gasoline volume	m ³	ACUM
Compressed air	435	Compressed air volume	m ³	ACUM
Compressed air	436	Compressed air massflow	m ³ /h	INST
Compressed air	437	Compressed air pressure	bar	INST

Compressed air	439	Normalised compressed air volume	Nm3	ACUM
Compressed air	440	Normalised compressed air massflow	Nm3/h	INST
Biomass	472	Biomass mass	kg	ACUM
Biomass	473	Biomass energy	kWh	ACUM
Biomass	496	Biomass mass forecast	kg	ACUM
Biomass	497	Biomass energy forecast	kWh	ACUM
Biomass	531	HV (m) - Heating value (mass)	kWh/kg	INST
Steam	475	Steam energy	kWh	ACUM
Steam	476	Steam mass	kg	ACUM
Steam	498	Steam energy forecast	kWh	ACUM
Thermal	801	Thermal heating power	kW	INST
Thermal	802	Thermal heating energy	kWh	ACUM
Thermal	810	Thermal cooling energy	kWh	ACUM
Thermal	811	Thermal cooling power	kW	INST
Thermal	882	Thermal heating energy forecast	kWh	ACUM
Generic	504	Generic volume	m3	ACUM
Generic	505	Generic energy	kWh	ACUM
Generic	506	Generic power	W	INST
Generic	507	Burning oil mass	kg	ACUM
Generic	510	Normalised energy	kWh	ACUM
Generic	559	Ton of oil equivalent (TOE)	toe	ACUM
Generic	301	Temperature	°C	INST
Generic	302	Humidity	%	INST
Generic	303	Light	LUX	INST
Generic	308	Sound intensity	dB	INST
Generic	309	Soil humidity	%	INST
Generic	312	Dew point		INST
Generic	381	Temperature forecast	°C	INST
Generic	382	Humidity forecast	%	INST
Metereologic	180	Cooling degree days	CDD	ACUM
Metereologic	181	Heating degree days	HDD	ACUM
Metereologic	182	Degree days	DD	ACUM
Metereologic	185	Cooling degree day forecast	cdd	ACUM
Metereologic	186	Heating degree day forecast	hdd	ACUM
Metereologic	187	Degree days forecast	dd	ACUM
Metereologic	310	Heat index	°C	INST
Metereologic	311	Absolute humidity		INST
Metereologic	313	Wind speed	km/h	INST
Metereologic	314	Wind direction		INST
Metereologic	315	Pluviometer	l/m2	INST
Metereologic	318	Air pressure	mb	INST
Metereologic	319	Sea level pressure	mb	INST

Metereologic	320	Cloud coverage	%	INST
Metereologic	321	Visibility	km	INST
Metereologic	322	Probability of precipitation	%	INST
Metereologic	323	Accumulated snowfall	l/m2	INST
Metereologic	324	Snow depth	mm	INST
Solar	316	Solar radiation intensity	W/m2	INST
Solar	317	Dirtiness	%	INST
Solar	331	Diffuse horizontal solar irradiance (DHI)	W/m2	INST
Solar	332	Direct normal solar irradiance (DNI)	W/m2	INST
Solar	333	Global horizontal solar irradiance (GHI)	W/m2	INST
Solar	334	UV index		INST
Solar	335	Solar elevation angle	Degrees	INST
Solar	336	Solar azimuth angle	Degrees	INST
Solar	337	Solar hour angle	Degrees	INST
Solar	338	Solar radiation energy	Wh/m2	ACUM
Solar	383	Solar radiation forecast	W/m2	INST
Air quality	306	Carbon monoxide (CO) concentration	ppm	INST
Air quality	307	Carbon dioxide (CO2) concentration	ppm	INST
Air quality	340	PM2.5	µg/m3	INST
Air quality	341	PM10	µg/m3	INST
Air quality	342	TVOC	mg/m3	INST
Air quality	343	PM10	µg/m3	INST
Air quality	344	PM4	µg/m3	INST
Water	901	Water	m3	ACUM
Water	902	Water flow	m3/h	INST
Water	981	Water volume forecast		ACUM
Emissions	550	Carbon equivalent emissions	kg	ACUM
Emissions	551	Carbon dioxide emissions (CO2)	kg	ACUM
Emissions	552	Methane emissions (CH4)	kg	ACUM
Emissions	553	Nitrous oxide emissions (N2O)	kg	ACUM
Emissions	554	Ozone emissions (O3)	kg	ACUM
Emissions	555	Chlorofluorocarbons emissions (CFCs)	kg	ACUM
Emissions	557	Sulfur hexafluoride emissions (SF6)	kg	ACUM
Emissions	558	Nitrogen trifluoride emissions (NF3)	kg	ACUM
Fluids	850	Mass flow	kg/h	INST
Fluids	921	Fluid temperature	°C	INST
Fluids	922	Fluid temperature (F)	°F	INST
Fluids	923	Fluid pressure (bar)	bar	INST
Fluids	924	Fluid pressure (psi)	psi	INST
Fluids	925	Total chlorine concentration (ppm)	ppm	INST
Fluids	926	Total chlorine concentration (mg/l)	mg/l	INST
Fluids	927	Free chlorine concentration (ppm)	ppm	INST

Fluids	928	Free chlorine concentration (mg/l)	mg/l	INST
Fluids	929	pH		INST
Fluids	930	Biofilm	mV	INST
Fluids	931	Fluid volume supply	m ³	ACUM
Fluids	932	Fluid volume return	m ³	ACUM
Fluids	933	ORP	mV	INST
Tank	910	Tank level	%	INST
Tank	911	Tank pressure	bar	INST
Tank	912	Tank temperature	°C	INST
Generic	161	Time of Use	h	ACUM
Generic	499	Efficiency	%	INST
Generic	501	Digital binary input	-	INST
Generic	502	Pulse counter	-	ACUM
Generic	601	Device ID		INST
Generic	602	Group ID		INST
Generic	603	RSSI		INST
Generic	604	Hop count		INST
Generic	605	First hop ID		INST
Generic	606	Last hop ID		INST
Generic	607	Sampling interval		INST
Generic	608	Network channel		INST
Generic	609	Total online devices		INST
Generic	610	Battery	V	INST
Generic	611	LQI		INST
Generic	612	ETX		INST
Generic	613	Age of values	minutes	INST
Generic	614	Battery (%)	%	INST
Generic	701	Device temperature	°C	INST
Generic	702	Inversor photovoltaic temperature	°C	INST
Generic	703	Errors		INST
Generic	704	Status		INST
Generic	812	Load factor	%	INST
HVAC	304	Temperature setpoint	°C	INST
HVAC	305	Temperature rele ONOFF	°C	INST
HVAC	384	Temperature setpoint forecast	°C	INST
HVAC	803	Hot water volume	m ³	ACUM
HVAC	804	Mass flow	m ³ /h	INST
HVAC	805	Inlet temperature	°C	INST
HVAC	806	Outlet temperature	°C	INST
HVAC	807	COP/EER		INST
HVAC	808	Low pressure	Bar	INST
HVAC	809	High pressure	Bar	INST

HVAC	813	Air supply temperature	°C	INST
HVAC	814	Air supply temperature setpoint	°C	INST
HVAC	815	Air supply pressure	Bar	INST
HVAC	816	Air supply pressure setpoint	Bar	INST
HVAC	817	Air supply relative humidity	%	INST
HVAC	818	Air supply relative humidity setpoint	%	INST
HVAC	819	Air return temperature	°C	INST
HVAC	820	Air return pressure	Bar	INST
HVAC	821	Air return pressure setpoint	Bar	INST
HVAC	822	Air return relative humidity	%	INST
HVAC	823	V3V heating coil	%	INST
HVAC	824	V3V cooling coil	%	INST
HVAC	825	Air damper position	%	INST
HVAC	826	Accumulation temperature	°C	INST
HVAC	827	Start counter		ACUM
HVAC	828	HVAC status		INST
HVAC	829	HVAC speed		INST
HVAC	830	HVAC mode		INST
Generic	503	Generic		ACUM
Business	121	Absolute occupancy	pax	ACUM
Business	122	Relative occupancy		INST
Business	126	Absolute occupancy forecast		ACUM
Business	127	Relative occupancy forecast		ACUM
Business	131	Production	ud	ACUM
Business	136	Production forecast	ud	ACUM
Business	137	Waste mass	kg	ACUM
Machinery	913	Valve opening	%	INST
Machinery	914	Machine load	%	INST
Materials	934	Composition (%)	%	INST
Materials	935	Composition (ppm)	ppm	INST
Materials	936	Density	kg/m3	INST
Materials	937	Height	cm	INST
Financial	141	Turnover	€	ACUM
Financial	142	Turnover \$	\$	ACUM
Financial	143	Turnover £	£	ACUM
Financial	151	Profit €	€	ACUM
Financial	152	Profit	\$	ACUM
Financial	900	Electricity tariff		ACUM

Additional Links

More information about the Xserver.IoT.200 device can be found at the following links:

- [Xserver.IoT.200 User Guide](#)
- Online trainings: <https://www.intellisense-iot.com/online-training-iot-cloud>
- Downloads: <https://www.intellisense-iot.com/downloads-iot-software>

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