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GEM Series Intelligent Controller

Overview

GEM series intelligent controller integrates logic control, data acquisition, data analysis and edge computing internet technology; it is a perfect combination product of intelligent control and IIoT (Industrial Internet of Things) technology.

GEM series product includes a controller console and unit modules; the controller console contains PC interface and power interface; the plug-in I/O module contains digital and analog units which can be combined diversely to satisfy various requirements according to requirement of users; OtoStudio development platform based on IEC61131-3 standard helps clients with quick secondary development; it supports Janus@Edge edge computing system; iClient industrial private cloud client can be embedded to support remote access, debugging, and controlling, mobile internet integration applications can thus be achieved easily.

GEM series products are widely used in intelligent sewage treatment, water quality online monitoring, intelligent building, intelligent agriculture, electronic information, IoT, and other high-tech fields.

Main Features

- OtoStudio development platform provides 6 programming languages; possesses abundant industry motion control library which can greatly reduce secondary development time of clients.
- Windows CE OS with built-in encryption chip.
- Built-in watchdog prevents system from interference of external electromagnetic field that causes program fleet and endless looping.
- Plug-in I/O unit modules contain digital or analog units; single console supports up to 96 channels I/O and can be configured flexibly.
- Extends up to 32 I/O modules (500 Protocol) externally.
- Ample interface: USB, RS485, LAN, eHMI, gLink.
- Hardware adopts precise electronic components that are widely used in aviation, automobile, military industry and other high-tech fields; strong anti-interference.
- Supports Janus@Edge edge computing system; iClient industrial private platform client can be embedded; supports remote access, debugging, controlling, mobile internet integration application can be realized easily.
- Aluminum die casting with high accuracy; fanless design; aesthetic and maintenance free.

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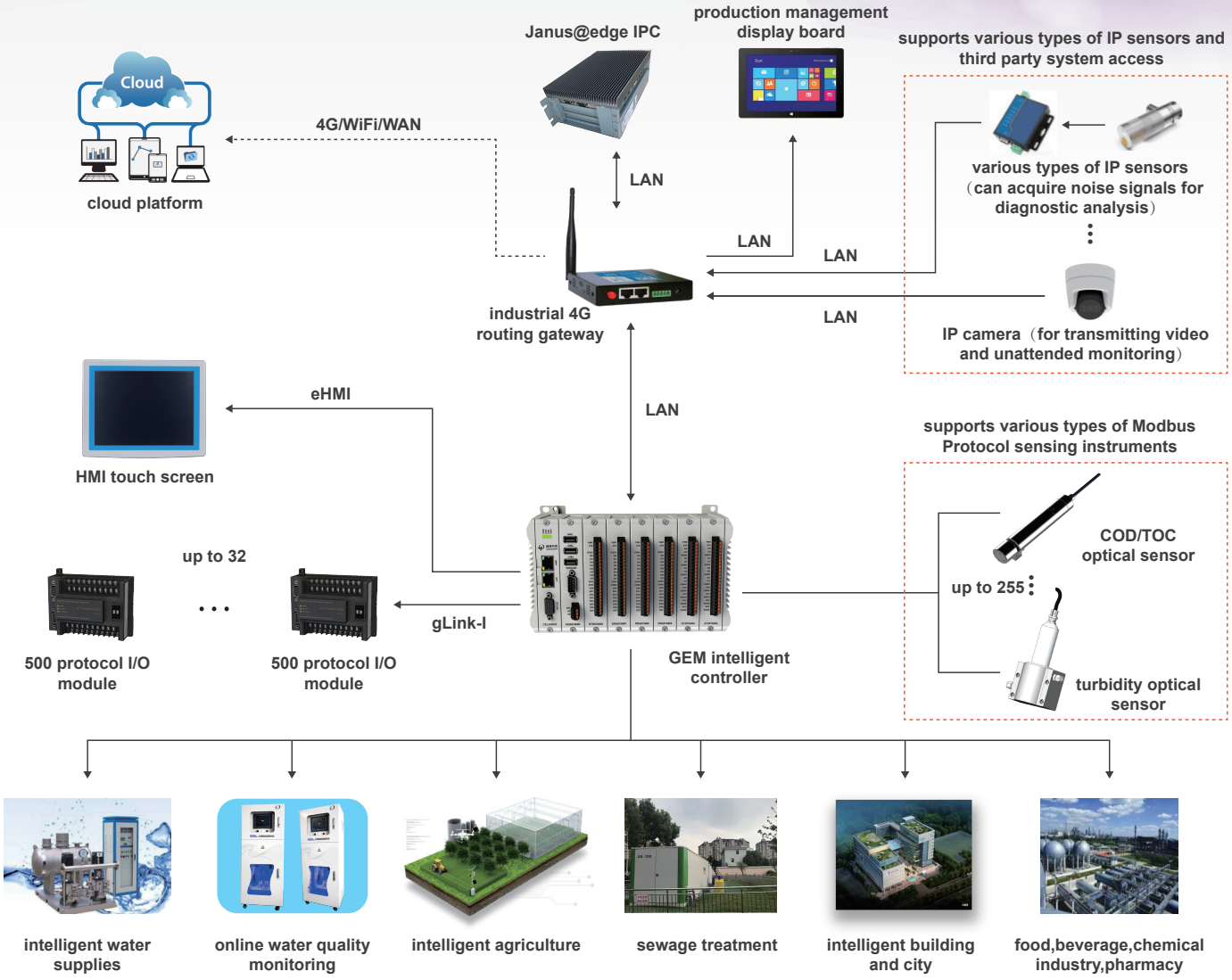
System Layout



intelligent water supplies

online water quality monitoring

intelligent agriculture

sewage treatment

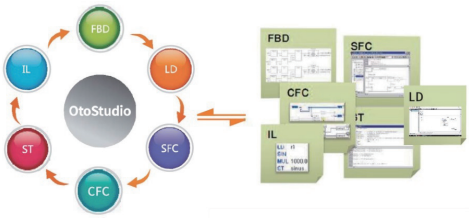
intelligent building and city

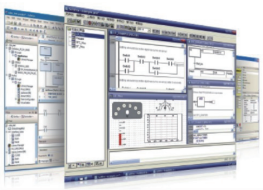
food,beverage,chemical industry,pharmacy

Development Platform

Development Environment Feature:

- Provides 6 programming languages: ST, IL, SFC, FBD, LD, and CFC;
- Supports C or C++ high-level languages;
- Flexible HMI configuration
- Supports remote network access and maintenance;
- Multiple encryption functions to protect intellectual properties of users;
- Supports network variables;
- Facilitates realization of intelligent manufacturing and production management.





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Specification

Function	Item	Description
PC Function	CPU	800MHz or above
	RAM	512MB
	DOM	4 GB
	OS	WinCE6.0
Power	21-28V DC , 300mA (excludes universal output load current); IO24V/0V DC	
Communication Interface	eHMI*1, LAN*1, USB*3, RS232/ RS485*1, gLink-I (Optional)	
Environment	Operating temperature	-20 ℃ ~ +55 ℃
	Storage temperature	-40 ℃ ~+70 ℃
	Operating humidity	Less than 90% RH, non-condensing
	Operating environment	Indoor, not under direct sunlight; without dust, corrosive gas, combustible gas, oil stain, water vapor, dripping or salt, etc.
	IP protection	IP30
	Dimension (L*W*H)	221.4*147.2*113.5 mm

Applications

intelligent agriculture

intelligent water supplies

online water quality monitoring

sewage treatment

Food, Beverage, Chemical Industry

intelligent building

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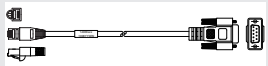
Ordering Guide

Ordering Number	Description
GEM-RT2602	4 digital I/O module slots, 2 analog IO module slots, no extension I/O
GEM-RT2603	6 digital I/O module slots, no extension I/O
GEM-RT2604	5 digital I/O module slots, 1 analog I/O module slot, no extension I/O
GEM-RT2605	4 digital I/O module slots, 2 analog I/O module slots, gLink-I extension I/O
GEM-RT2606	6 digital I/O module slots, gLink-I extension I/O
GEM-RT2607	5 digital I/O module slots, 1 analog I/O module slot, gLink-I extension I/O

Optional Accessories

Type	Ordering Number	Description	Picture
Digital I/O module (Board)	CEDX-0808-DTD01	8 DI/8 DO, transistor drain output	
	CDX-0808-DRA01	8 DI/8 DO, relay FORM A output	
Analog I/O module (Board)	CEDX-0404-A1201	4 AI/4 AO, 12-bit precision, Voltage input range: ±10V; Current input range: 0 mA~20 mA, 4 mA~20 mA, ±20 mA;	
Digital extension I/O module (Transistor output)	HCB5-1616-DTD01	16 DI/16 DO; input active low, drain output	
	HCB5-1616-DTS01	16 DI/16 DO, input active high/low selectable, source output;	
	HCB5-3200-DXX01	32 DI/no DO, input active high/low selectable	
Digital extension I/O module (Relay output)	HCB5-1610-DRA01	16 DI/10 DO, input active high/low selectable, first 2 channels transistor source output; last 8 channels normally open relay	
Analog extension I/O module	HCB5-0604-A1201	6 AI/4 AO, I/O resolution 12-bit; supports voltage type and current type; I/O voltage range: 0-5V, 0-10V, ±5V, ±10V; I/O current range: 0-20mA, 4-20mA	
	HCB5-0606-A1201	6 AI/ 6 AO, IO resolution 12-bit; I/O supports voltage type and current type; I/O voltage range: 0-5V, 0-10V, ±5V, ±10V I/O current range: 0-20mA,4-20mA	
Panel HMI Touch Screen	GTC-TP-03A (Standard)	7-inch, resolution 800*480	
	GTC-TP-04A	10-inch, resolution 800*600	
	GTC-TP-02A	12-inch, resolution 800*600	
	GTC-TP-01A	15-inch, resolution 1024*768	
Ethernet HMI cable	CABLE-eHMI/RJ45-RJ45-*m (Standard)	Cat 5e Ethernet cable Selectable length of 3m/5m/10m	
	CABLE-eHMI/RJ45-DB9F-*m	Cat 5e Ethernet cable, Selectable length of 3m/5m/10m Connection cable of controller and panel.	
gLink module communication cable	gLink-I/DB9M-DB9F- *m	For extension I/O module with gLink protocol Selectable length of 0.3m/1.5m	

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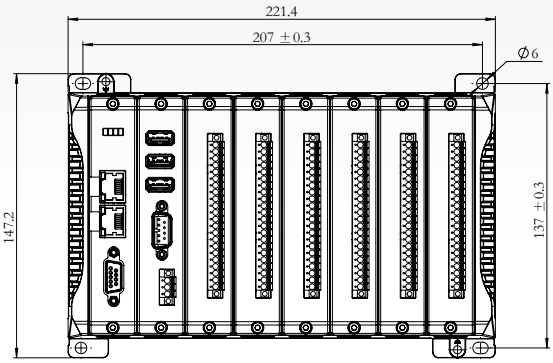
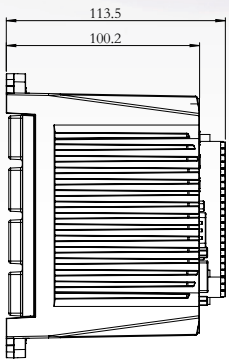
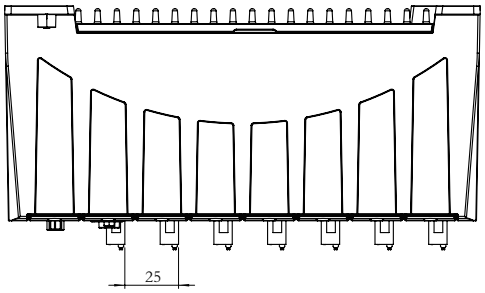
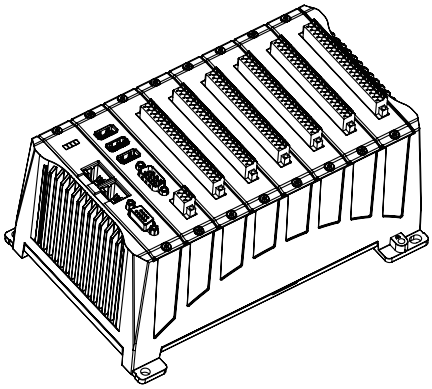
Dimension









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