

Low Power Autonomous Controller
FCN-RTU



Network-based Control System
STARDOM™
Low Power Autonomous Controller FCN-RTU
FCN-RTU

Bulletin 34P02A00-61E

<http://stardom.biz>

High performance with low power

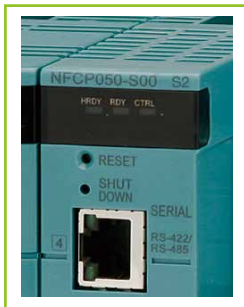
Yokogawa's STARDOM low power consumption model of Autonomous Controller FCN, the FCN-RTU is a robust device designed to meet the demanding requirements of applications where infrastructure is inadequate and conditions inhospitable and temperatures as extreme as $-40\text{ }^{\circ}\text{C}$ to $70\text{ }^{\circ}\text{C}$ ($-40\text{ }^{\circ}\text{F}$ to $+158\text{ }^{\circ}\text{F}$) and at altitudes up to 3,000 meters (9,842 feet). In sleep mode, the CPU provides reliable control while using a minimum of power. The power supply runs on a wide range of voltages by solar batteries and comes with a battery monitoring function. Advanced control applications can be programmed in various languages and a large collection of libraries developed over the years for Yokogawa's DCS business. To support these control features, various autonomous capabilities, a web server, FTP, and logging functions are embedded, simplifying the efficiency of routine monitoring and operation from remote sites. FCN low power consumption model FCN-RTU is ideal for geographically distributed applications, especially for gas wells and pipelines.

Best-in-class CPU module: NFCP050

- Enables advanced control applications

- 256MHz, 32 bit RISC processor
- Error Check and Correct (ECC) memory
- Power fail-safe file system
- Low power consumption (1.6W to 2.9W) *

* exclusive of field power supply



Compact

- Fits in

- 28 cm (11.02 in) DIN rail
- Three e
- *283 mm

Flexible power supply module: NFPW426

- Ideal for solar power applications

- Wide voltage range: 10-30 V DC



- Compact and easy wiring

- MIL connector cable: KMS40
- MIL connector terminal block : TAS40



More communication choices

- Suitable for various communication protocols

- One 100BASE-TX Ethernet port with automatic power saving mode
- Three RS232 serial ports (one port up to 115 kbps)
- One RS422/485 serial port up to 115 kbps with switchable 120Ω terminator
- Support Modbus protocol

Low power consumption



Low Power Autonomous Controller FCN-RTU
FCN-RTU

Best system that meets the
hazardous. It thrives in
hazardous. With its embedded auto
range of voltages supplied
supported using IEC61131-3
support the FCN-RTU's secure
simplifying and improving the
FCN-RTU is the ideal solution for



Base unit: NFBU050
Small cabinets
(11 inch)* wide
Panel mount or screw mount
Expansion I/O Slots
(11.14 inch)



Multiple built-in I/O
Reduces your initial installation cost
Twelve analog inputs (1-5 V DC)
Two analog outputs (4-20 mA)
Sixteen digital inputs
Eight digital outputs
Two pulse inputs (0-10 kHz)
One battery monitoring input (0-32 V DC)

Robust construction

- Thrives in remote and inhospitable locations
- 40 °C to +70 °C (-40 F° to +158 F°)
- Altitudes up to 3,000 m (9,842 ft)

Explosion-protection

- Applicable to hazardous field applications
- CSA Non-Incendive
- CENELEC ATEX Type "n"
- FM Non-Incendive Class I Division 2, Groups A, B, C, D T4
- IECEx Type "n"

International standard language

- All five IEC61131-3 languages for control functions
- Java languages for autonomous functions

Field proven libraries based on DCS expertise

- Specialized function blocks for regulatory control
- Easy programming of control applications using reliable Yokogawa libraries

Gas flow calculation portfolio

- Applications for gas metering
- AGA3, 7, 8, 9, 10, 11, GPA2172
- API21.1 compliance: totalizer, audit trail, and embedded logging functions

Easy connection with GPRS

- Embedded PPP function

Autonomous features

- Embedded Web applications
- Data logging and Web HMI using web server functions
- E-mail send and receive functions

Expansion I/O modules *

- Scalable and configurable I/O
- Accommodates up to three configurable I/O modules
- (AI, AO, DI, DO, PI, FOUNDATION™ fieldbus and HART)

* Installation requirements for environment of FCN-RTU depends on I/O modules specifications.

Yokogawa's green intelligent RTU shines under the sun

FCN-RTU revolutionizes asset management for remote applications with digital technology.



For Your Operation

Yokogawa's FAST/TOOLS™ SCADA system best suits scalable and distributed applications.

-High Availability Computing (HAC)

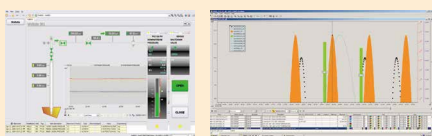
FAST/TOOLS hot-standby server configuration secures your applications.

-High Scalability

The number of I/O points is scalable, from less than a hundred to more than a million.

-Secured Data

Data during network failures are secured using data buffering mechanisms between FAST/TOOLS and FCN-RTU.



FAST/TOOLS
Hot-standby server configuration



For Your Asset Management

Yokogawa's PRM® Asset Management System lowers Operating Expense (OPEX).

-Appropriate Asset Management

Maintenance information is notified to the right person according to the device type and diagnostic data.

-Single Window

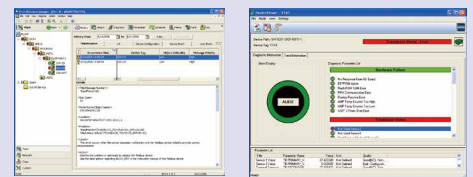
Maintenance personnel can browse all field assets on remote site and identify which require on-line diagnosis.

-Easy and Flexible Access

Historical data such as alarms, diagnosis results and maintenance records are all stored on PRM. They are easily filtered for quick analysis and used for preventive maintenance.



PRM



Radio, Satellite, GPRS, Telephone Line

A large number of FCN-RTU can be connected with FAST/TOOLS.



Yokogawa Multivariable Transmitter EJX

Impulse line blockages are detected, and maintenance person informed, thanks to FOUNDATION fieldbus.



Why use FOUNDATION™ fieldbus?

FOUNDATION fieldbus is an all-digital, serial, two-way communication system, which provides the following benefits.

- Efficient Asset Management

Remote device information can be centralized on PRM via FOUNDATION fieldbus. Real-time automated device checks reduce site patrols and prevent unexpected device failures.

- High Accuracy

FOUNDATION fieldbus improves the accuracy thanks to all-digital technology.

- Reducing Wiring Cost

FOUNDATION fieldbus reduces the wiring cost and simplifies the cable connections by means of multi-drop connection and multivariable transmission.

vigilantplant.®

The clear path to operational excellence

SEE
CLEARLY

KNOW
IN ADVANCE

ACT
WITH AGILITY

VigilantPlant is Yokogawa's automation concept for safe, reliable, and profitable plant operations. VigilantPlant aims to enable an ongoing state of Operational Excellence where plant personnel are watchful and attentive, well-informed, and ready to take actions that optimize plant and business performance.

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