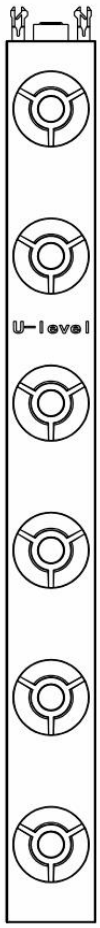
Digitalor®

CIS Customized

U-level Assets Management Module Specification

V1.0

Model：**U-level Module XXU-UR5000CIS**



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Content

1. Overview

1.1 Objective

This document defines the application and specification of U-Level Asset Management Module for:

- ❖ The guidance for components model selection
- ❖ The guidance for application
- ❖ The guidance for testing

1.2 Application

Server room, data center, micro module data center and container data center will deploy U-Level Asset Management Module to monitor servers in the rack, manage U-level utilization, etc.

1.3 Reference Standard

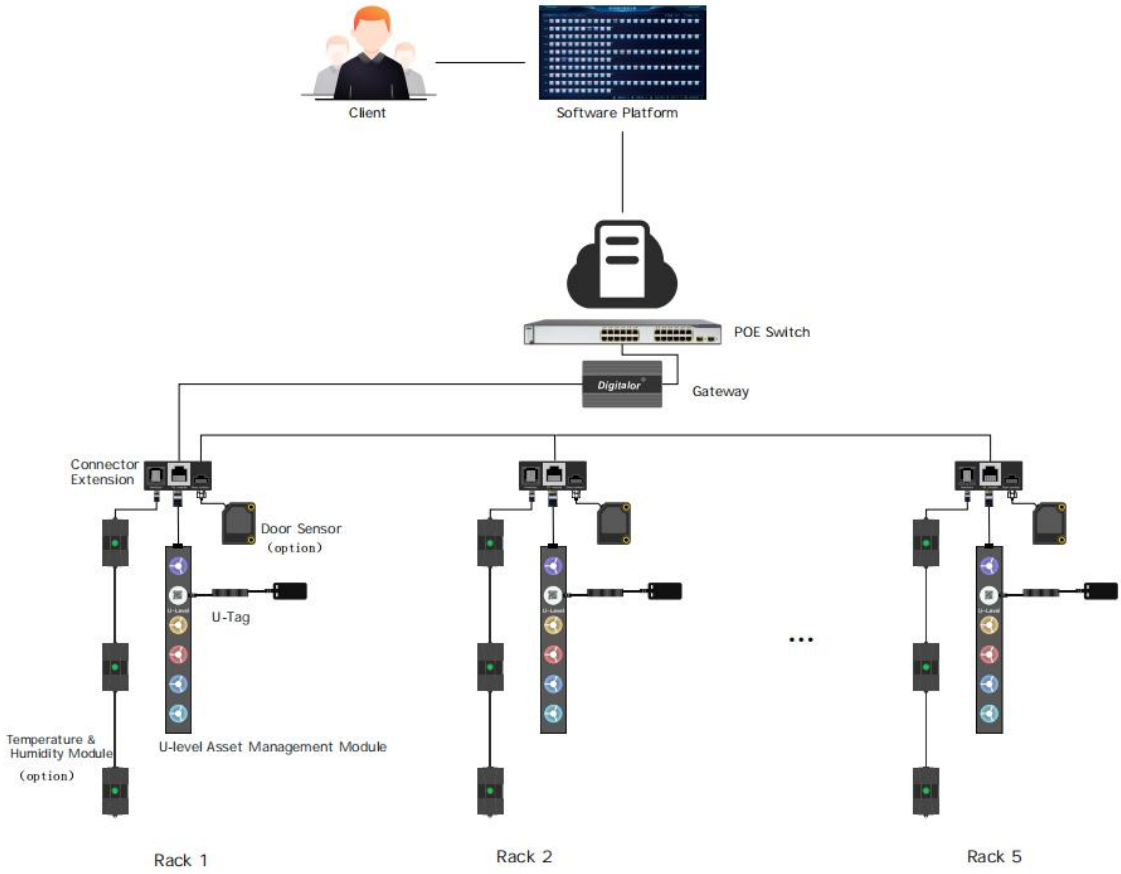
Standard	Contents
GB 50348-2004	Technical Specification for Safety and Precautionary Engineering
GB 50174-2008	Design Specification for Electronic Information System of Server Room
EN55022:2006	Information technology equipment — Radio disturbance characteristics —Limits and methods of measurement
IEC 60950-1	'Information technology equipment – Safety. Part 1: General requirements',
IEC61000-4-6	Electromagnetic compatibility(EMC)-Part 4-6:Testing and measurement techniques-Immunity to conducted disturbances,induced by radio-frequency fields
IEC61000-4-5	Electromagnetic compatibility(EMC)-Part 4-5:Testing and measurement techniques-Surge immunity test
IEC61000-4-4	Electromagnetic compatibility(EMC)-Part 4-4: Testing and measurement techniques-Electrical fast transient/burst immunity test

2. Overall System Requirements

2.1 Wiring Topology

In the application scenario of U-level Asset Management Module, wiring topology is as following:

PS：The connector extension used for wiring.



Wiring Mode:

- ❖ End-to-end：One gateway supports one rack. This mode uses for the project with high reliability and real-time.
- ❖ One-to-More: One gateway supports five racks at most. This mode uses for the project with saving-cost.

Notes：

- ■ The gateway can be powered by adaptor (15V 3A) or POE switch whose single network port cannot less than 15W.

- The distance between the first “connector extension” and the fifth should be less than 20 meters and it recommends to use Cat5e
- To ensure the reliable operation of U-level management module, the rack should be reliably grounded.

2.2 Application Environmental Requirements

Graphic 1. Environment Requirements

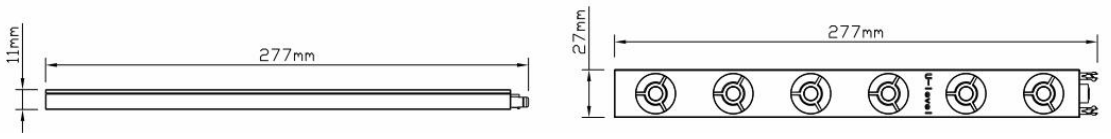
Environment Parameter				Working	Shipping	Storage	Note
Item		Parameter	Unit				
Climate	Temperature	Low	℃	-10	-40	-40	/
		High	℃	55	+70	+70	
	Humidity	Low	%	5	/	5	/
		High	%	95	/	95	
		Condensed	Y/N	NO	/	NO	
	Altitude	Low	m	0	0	0	
		High	m	4000	4000	4000	

3. Structure

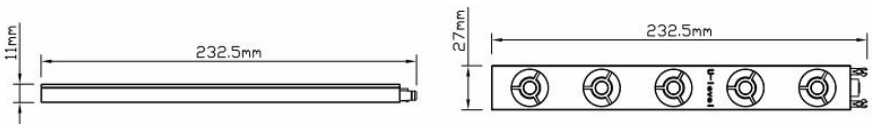
3.1 Dimension and Weight of U-Level Asset Management Module

Graphic 2 Dimension and Weight

Item	Dimension（mm）	Maximum Weight	Material	Color
6U	277 x 27 x 11	66.6	PC (Flame Retardant)	Tawny&Translucent
5U	232.5 x 27 x 11	58	PC (Flame Retardant)	Tawny&Translucent



Single 6U module



Single 5U module

3.2 Cooling Requirements

Natural heat dissipation

4. Technical Parameters of U-level Modules

Attribute	Number of Supported U-Levels	42U/44U/45U/48U(Can be customized)
	Single 6U module	277mm(Length) x 27mm(Width)x 11mm(Height)
	Single 5U module	232.5mm(Length) x 27mm(Width)x 11mm(Height)
Device Parameters	RFID Frequency	13.56 MHZ (ISO 14443A)
	Tag Reading Mode	Automatic Reading
	Module Fixing mode	Sticker
	External Communication Interface of Primary Module	Modbus RS-485
	Peripheral Extended Functions of Primary Module	Temperature and Humidity Monitoring Module; Door Contact (Used for monitoring ON/OFF of rack door)
	External Interface Type of Primary Module	RJ45 plug
	LED Status Indicator	Every U-level module is configured with seven color indicator.
Power Requirement	Power Supply	DC 3.8~20V
Notice When Ordering	Module Type	U-level Module 42U-UR5000CIS
		U-level Module 44U-UR5000CIS
		U-level Module 45U-UR5000CIS
		U-level Module 48U-UR5000CIS
	Communication Protocol	Modbus-RTU Protocol
RS485 Interface	Baud Rate	Default 38400bps
	Data Format	N,8,1
EMC Index	ESD (Electrostatic discharge) test class: 1. Contact Discharge±2KV, ±4KV 2. Air Discharge ±2KV, ±4KV, ±8KV	
Power Consumption	48U Total Power Consumption	2.3W

5. Feature

■Adopting Digitalor MC-RFID(US Patent No: 9633235B2) technology solves electromagnetic interference and realizes 100% accuracy of U-Level positioning and identification.

■ hot plug of modules and arbitrary replacement of Secondary modules are supported. The program does not need to be reset. The modules can be configured according to the number of U-level in the rack, at most support 54 U.

■ Flexible connection; double-row in-line pins; stable and durable in series; convenient installation.

■ It has RS485 interface and adopts standard MODBUS protocol, which is convenient for remote monitoring and system integration.

■ Modular structure with easy installation and no need tool.

6. Packing List

Product Type	Product Name	Quantity
U-level Module 42U-UR5000CIS	U-Level Asset Management Modules	1 no of Primary Module (6U) 6 nos of Secondary Module （6U）
U-level Module 44U-UR5000CIS	U-Level Asset Management Modules	1 no of Primary Module (6U) 3 nos of Secondary Module （6U） 4 nos of Secondary Module （5U）
U-level Module 45U-UR5000CIS	U-Level Asset Management Modules	1 no of Primary Module (6U) 4 nos of Secondary Module （6U） 3 nos of Secondary Module （5U）
U-level Module 48U-UR5000CIS	U-Level Asset Management Modules	1 no of Primary Module (6U) 7 nos of Secondary Module （6U）
Other: Paper Box and Foam.		

FCC Warning

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any inte rference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interferenceto radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-Reorient or relocate the receiving antenna.

•Increase the separation between the equipment and receiver.

•Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

•Consult the dealer or an experienced radio/TV technician for help.

Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.