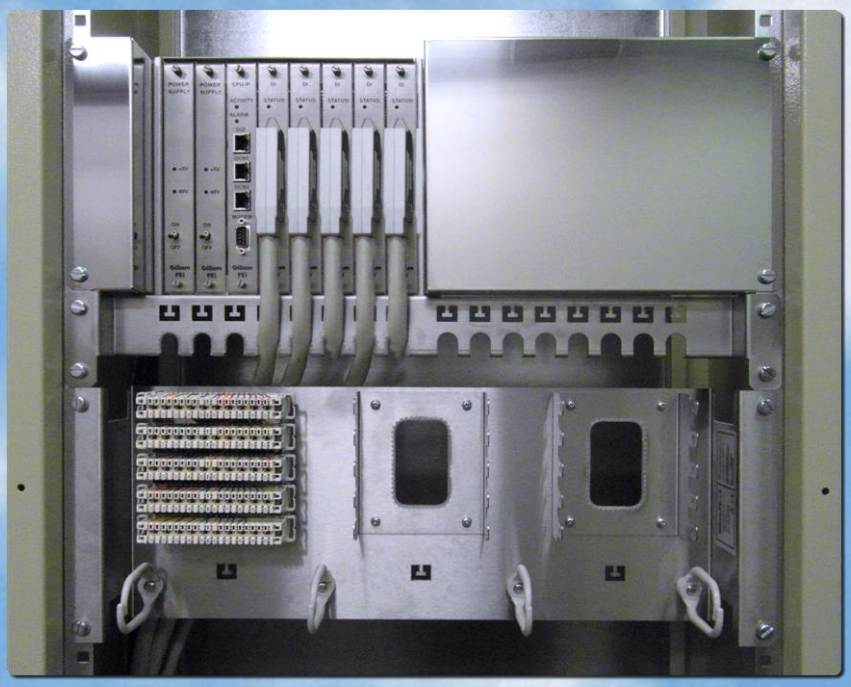
UB
Alarms collector RTU



UB Alarm collector is a modular RTU with optimized functionalities for equipment rooms monitoring.

UB is available in ½ 19'' and full 19'' /ETSI format to provide a cost-effective solution for every size of configuration. Designed for reliability, all cards are hot-swappable. Redundant power supply is available.

Alarm contacts are read by digital input cards (24DI) equipped as needed. They provide configurable contact type, a programmable filter and toggle limit. Advanced self-test functionalities
The cabling of the alarm contacts is performed on separate wiring panels. Alarms are cabled on LSA connector blocks in a very clear and efficient way.

UB provides 2 independent Ethernet ports for IEC104 communication + 1 Ethernet port for WEB interface. For central supervision, configuration and maintenance, GILLAM also proposes a dedicated SCADA solution, the **LYNX UB Element Manager**.

GILLAM **UB** Alarm collector is a RTU specifically designed for the monitoring of equipment rooms by gathering of the alarm points. The modularity of the **UB** brings tailored solutions to Telco operators with network infrastructure dispersed in several sites of various sizes.

UB is used to manage alarm information (DI) coming from:

- Telecom Switching/Networking Equipment
- Physical environment sensors (temperature, water, smoke, intrusion, …)
- Auxiliary equipments (power supply, UPS, heaters, pumps, HVAC, …)

- Up to 120 DI in one ½ 19'' frame
- Up to 312 DI in one 19'' frame

- Easy cabling on LSA connector blocks
- Contact type and filter are configurable
- User-friendly WEB interface

- 2 x IEC60870-5-104 Ethernet ports
- 1 Ethernet port for WEB GUI
- RS-485 extension

- 48VDC telecom power supply
- Redundant power supply configuration possible

Modularity

With extended modularity possibilities, all sizes of equipment rooms can be addressed, from the smallest to the largest.

- The compact ½ 19'' frame accepts from 24 to 120 DI.
- The full 19'' frame accepts from 24 to 312 DI.

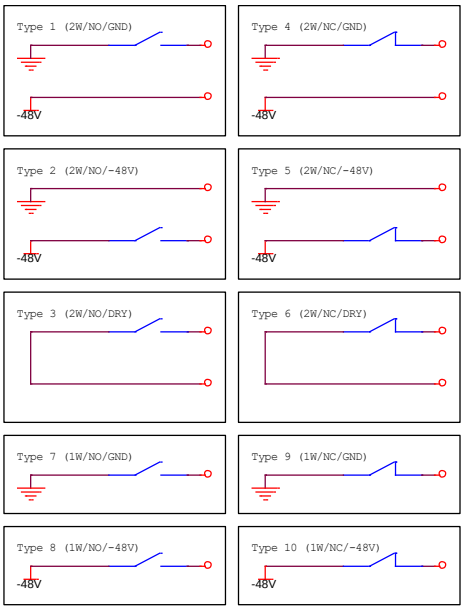
Power supply

The power supply card feeds from -48VDC telecom voltage.
For improved reliability, a second power supply card can be inserted in the frame and feeded from separate -48VDC. In redundancy mode, the cards share the load current. In case of failure, the faulty card is disconnected from the load and reported to the CPU.

24 DI Card

To collect the alarm contact information, one or more 24 Digital Input cards are inserted in the frame as needed.
The type of contact alarm is selectable among 10 configurations to support :

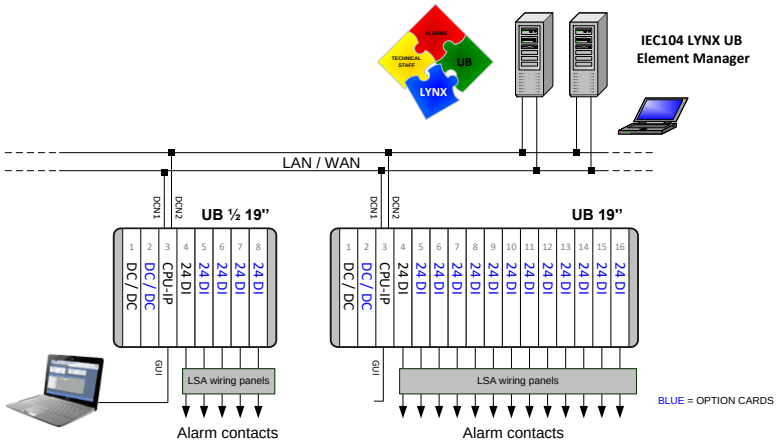
- NO or NC contacts,
- 2 wire and 1 wire connection,
- Common polarity to ground, to -48VDC or free of potential.



Inputs are equipped with programmable delay filter. A specific toggle filter masks oscillating inputs.
A built-in hardware self-test disconnects the external circuitry to test the integrity of each input. A damaged hardware is detected and reported to the CPU.
Input contacts are available on the RJ-21 front card connector. With the use of LSA harness (see below), the replacement of the card is possible without dismounting of the alarms wires.

DI wiring panel

With the use of the wiring panels, connection of the alarms wires is clear, simple and efficient. Each ETSI or 19'' wiring panel accepts 3 x 5 rows of 10-pairs Krone LSA connection blocks.
Cable harness are provided to link the 24DI cards with the LSA modules. One cable harness is used to connect two 24DI cards to five LSA modules. Presence of the cable is detected by the DI card.



CPU-IP Card

The CPU-IP is in charge of all the internal and external communication of the UB.
3 independent Ethernet ports provide :

- GUI : for direct connection to the local WEB interface.
- DCN1 : IEC104 connection to the SCADA through the data communication network.
- DCN2 : a second IEC104 connection (for communication redundancy).

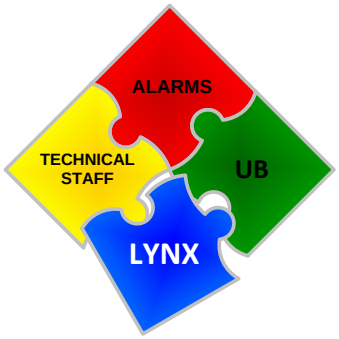
Serial port is available for connection of up to 10 supplementary 24 DI cards (see “copper extension”).

WEB interface

WEB interface is available on the GUI port. Using its usual browser, the user is able to perform supervision, configuration and maintenance tasks. The interface is modern, intuitive and does not need specific training session.
Users are granted specifics access rights (3 levels are defined) and accounts are password protected.
The interface is separated in 3 sections :

- **S**upervision : consultation of DI states, cards status, communication parameters, tables, logbooks, alarms and communication traces.
- **C**onfiguration : provisioning and configuration of cards and communication tasks.
- **M**aintenance : software update, software restore and configuration import/export.

LYNX UB Element Manager



Issued from Gillam LYNX software suite, the **UB** Element Manager is a dedicated SCADA solution for the central supervision of the system.

- IEC104 communication with the **UB**
- Collection, synthesis and presentation of alarms
- Transmission of alarms to tier systems using various protocols
- Configuration and management of UB and alarm points

Please consult **LYNX UB Element Manager** datasheet for more information.

Racks

UB frames are provided as standalone or already mounted and wired in ETSI racks (2200mm height). The frame is composed of UB frame, LSA wiring panels, Power Connection Unit and internal cabling. All accessories are available for ETSI or 19’’ rack mounting.
We also welcome your specific needs and are ready to propose an adapted solution.

Remote sites without DCN

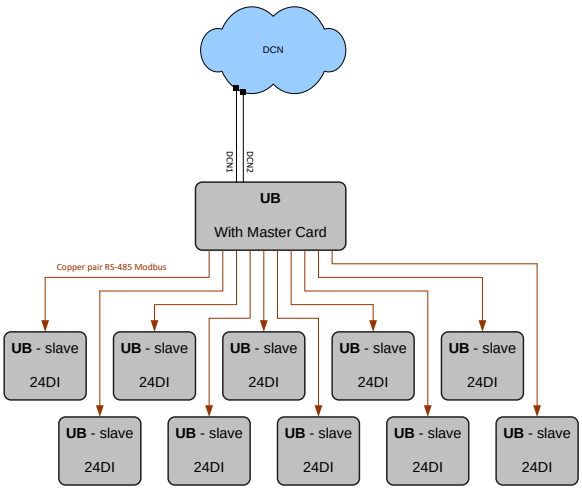
Copper extension

Small deported room without DCN access can be equipped with “copper slave” extensions.

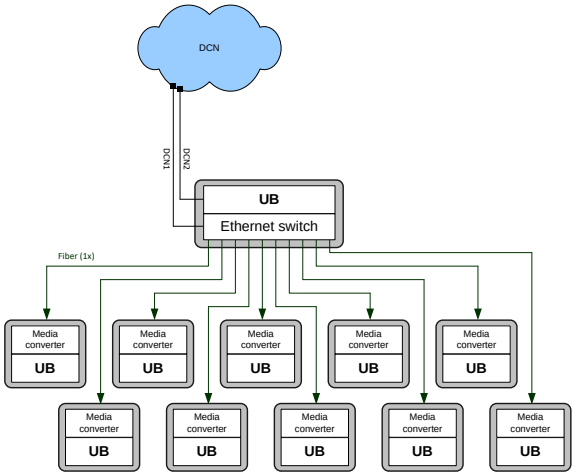
One **UB** is equipped with the "Master Card" to address up to 10 slave **UB**s. Each slave **UB** is composed of a power supply card, a Slave card and maximum one 24DI card.
The communication between master and slaves uses standard MODBUS protocol on RS-485. The communication speed is set to 1200 bps and accommodates max. 10 km distance on 0.5mm copper pair.

Fibre extension

In case of fibre communication, Ethernet to fibre media converters with pluggable SFP modules offer flexibility to accommodate to different kinds of fibre links. Depending on the needs, SFP are able to establish up to Gigabit Ethernet connection covering distances up to 120km. Multi-mode, single-mode transceivers as well as bidirectional (requiring only 1 fibre) solutions are available.



UB copper extension



UB fibre extension

Main characteristics

Modularity	
Frames	½ 19''frame : 8 card slots full 19'' frame : 16 card slots ETSI or 19'' adapters available
Slot 1	Power supply card
Slot 2	Power supply card (option)
Slot 3	CPU-IP card
Slots 4 to 8	24 DI cards
Slots 9 to 16	24 DI cards
full 19'' frame only	
Hot plug	All cards are hot-pluggable

Power supply	
Power input standard	ETS 300 132-2 (09/1996)
Input voltage, nom	-48VDC
Input voltage range	-40VDC to -60VDC
Input power, max	30W 55 W (including 48V DI contacts)
Redundancy	2 cards in load current share mode
LED indication	Input voltage status Auxiliary voltage status
On-off switch	Located on front panel
Protection	External breaker needed

Communication (CPU-IP card)	
Protocol	IEC60870-5-104
Media	3 Ethernet ports 10/100 base-T Auto-MDIX Separate, configurable IP addresses
IEC 104 Communication	2 Ethernet ports (DCN1, DCN2)
WEB communication	1 Ethernet port (GUI)
IEC104 Communication Redundancy	Supported
Time setting	through 104 protocol

24 DI Card	
Quantity	24 inputs per card
Input voltage	48VDC
Contact type	10 configurable types : • NO or NC • -48V common or GND common or potential-free • 2 wire or 1 wire Configurable as a software parameter
Filtering time	Time constant is a software parameter

Toggle filter	Output is squelched upon a programmable number of transitions
Self-test	Built-in electrical test on each DI
Card alarms	Card state Cable missing Self-test error
Card Connector	RJ-21 (24 pairs)
LED indication	Status LED

LSA wiring panel

Format	19'' or ETSI
Connector	LSA connector block
Capacity	15 LSA modules (3 x 5)
Harness modularity	1 LSA has 10 pairs 5 LSA are connected to 2 DI cards

Copper extension

Master copper card	In master UB slot 4
Slave copper card	In slave UB slot 3
Fieldbus	RS-485 Modbus
Data rate	1200 bauds
Distance	<10km on 0.5 copper pair
Number of slaves	Up to 10
Number of DI	One 24DI card per slave

Fibre extension

Master UB	Ethernet SFP switch 10 ports
Slave UB	External Media converter
SFP fibre converter	For flexibility, SFP is chosen according to optical distance and fibre type.
SFP Data rate	10/100/1000 Base-T Ethernet
SFP fibre type	Multi-mode, Mono-mode and bidirectional

WEB Maintenance

Interface	WEB interface
User access	Password protected
User rights	3 levels are defined : • S • S+C • S+C+M
Local override	Yes (inhibit SCADA actions)
Supervision	• Alarms • Logs • Cards list, IO states • Comm. stats / traces
Configuration	• Comm. settings • System settings • Cards settings
Maintenance	Import/Export of • Software update • Logs • Alarms list • Configuration settings
Logs	Alarms and events are stored in tables
Software update	Software update through WEB interface Possibility to revert to previous software version

UB Physical characteristics

½ 19'' frame dimensions	Wxdxh = 243x200x200 mm 8 slots
Full 19'' frame dimensions	Wxdxh = 486x200x200 mm 6 slots
Material	Stainless steel
Environment	ETS 300 019 Class 3.1 controlled temperature room
Operating conditions	-5°C to +45°C
Electromagnetic compatibility	ETS 300 386-1 (12/1994) In telecommunication centres with high priority of service
MTBF	Telcordia SR-332 CPU-IP CARD : 62.4 years DI card : 44.6 years DC/DC : 112.6 years Backplane : 984.1 years

ETSI Racks

Dimensions (Wxdxh)	ETSI 600 x 300 x 2200 mm
Rack material	Painted steel sheet
Coating	RAL 7035 (light grey)
Environment	ETS 300 019 Class 3.1 controlled temperature room
EMC	ETS 300 386-1 (telecommunication centre with high priority of service)
Customization	Other dimensions upon request

Mont Saint-Martin, 58
B-4000 LIEGE
Belgium
Tel.: +32 (0) 4 232 95 95
Fax : +32 (0) 4 223 42 76
: info@gillam.be
: www.gillam.be