



RISE

PUBLIC ADDRESS AND GENERAL ALARM (PAGA) SYSTEM



alphino
in light of innovation

When there is a need for important announcements or responding to emergency conditions, clear communication is critical for a **Reliable, Intelligible, Safe, and Effective** industrial public address and general alarm system.

Alphino RISE public address and general alarm system provides excellent performance in providing user-specified warnings/ alarm tones at appropriate sound levels, priority messaging hierarchy with crystal clear speech intelligibility.

Alphino RISE system provides fail-safe operation features of redundant master control & alarm tone generator, amplifier hot-standby backup configuration. It also provides a high level of safety integrity and availability by seamlessly handling speaker loop monitoring, smart supervisory and monitoring on speaker load, signaling beacon loop monitoring, and health monitoring for its amplifier, access panels, and all system modules.

Alphino RISE system also comes with a power line communication (PLC) beacon driver which can drive beacons and monitor beacon loop status via one pair of the power supply cable. Compare to conventional beacon operation whereby multiples of power supply cable are required to drive multiple color-coded signaling beacon lights, **Alphino RISE** system with **PLC beacon driver** provides users with many advantages in system implementation, seamless control, and monitoring operations as well as easy maintenance. Users can achieve significant advantages in cost, features and functions compared to conventional signalling beacon driving systems.



Alphino RISE PAGA system is operated through IP66 Access Station **AG6** which comes with IP66 microphone. AG6 Access Station can provide up zone selection buttons up to 6 Zones while buttons can be pre-configured to user's required zone and combinations. AG6 Access Station provides up to 8 alarms or pre-recorded message while it comes with informative backlit LCD display for monitoring, viewing system status, fault status.



Alphino RISE system is comprised of a powerful, compact 1U size class D amplifier **AD300** which produces crisp and clear audio while its monitoring features provide efficient and reliable operation in sync with the system. AD300 power amplifier produces 300W RMS output while it also can be configured into N+1 hot standby configuration in multiple groups for fail-safe operation.

RISE - PAGA SYSTEM SYSTEM MODULE SUBRACK



MASTER CONTROL MODULE

- Alarm tone generator with pre-configured alarms, storage, and playback for pre-recorded messages
- Dedicated audio processor for audio processing, audio multiplexing, and audio level adjustments
- Redundant operation with standby master control which provides fail-safe operation for system-critical functions
- Health monitoring for alarm tone generator function, audio channels, and power supply
- Analog heart-beat monitoring for all system modules operated in sub-rack
- Event log recording with high-capacity internal memory
- External device interface for event logs recording, periodic download/ backup features (as optional features)
- Other optional features such as external device interface for configuration input, remote monitoring, real time clock synchronization and HMI device interface are available upon request.

ACCESS STATION INTERFACE MODULE

- Provides up to two Access Station interfaces via one module and it can be extended to interface up to 10 Access Stations as standard configuration
- The system can be extended with up to 14 Access Stations in lieu of an audio interface module or telephone interface module in the single system sub-rack
- In case of extended access station interfaces and other interface modules are required, a second system sub-rack can be extended with up to 16 access stations in total

Alphino RISE public address and emergency warning system come with 3U sub-rack enclosure. It can accommodate up to 10 system modules while flexible slot allocation can be configured for access panel interface module, telephone interface module and audio interface modules.

AMPLIFIER INTERFACE MODULE

- Amplifier interface module act as audio gateway between system modules to amplifiers
- It routes two audio channels to amplifiers therefore, it provides seamless paging while there is no interrupted paging to routine background entertainment audio which are played at un-selected zones
- The module act as a fail-safe operation module as it will route the emergency audio line to the amplifiers in case of unlikely failure of the master control modules so that all emergency Alarm/Paging operations are still operational.

TELEPHONE INTERFACE MODULE

- Provide two channels PABX inputs with line monitoring for automatic off-hook/ on-hook detection
- Dedicated voice recording/playback for up to 16 minutes of voice recording and digital storage capability
- End of paging/tone detection and playback ensure unwanted PABX tone at end of paging are not broadcasted.

AUDIO INTERFACE MODULE

- Provide two channels of audio inputs with pre-configured line impedance either for 600 Ohm or 33 Ohm inputs.
- Provide two channels paging audio outputs with pre-configured line impedance either for 600 Ohm or 33 Ohm outputs.

RISE - PAGA SYSTEM SYSTEM MODULE SUBRACK

CONSTRUCTION - SYSTEM MODULES (3U SUBRACK MOUNT)



Slot - 1 (Fixed)	Slot - 2 (Fixed)	Slot - 3 (Fixed)	Slot - 4 (interchangeable)	Slot - 5 (interchangeable)	Slot - 6 (interchangeable)	Slot - 7 (interchangeable)	Slot - 8 (interchangeable)	Slot - 9 (interchangeable)	Slot - 10 (interchangeable)
Master Control Module (MCM - Primary)	Master Control Module (MCM - Secondary)	Amplifier Interface Module	Audio Interface Module	Telephone Interface Module	Access Panel Interface Module	Access Panel Interface Module	Access Panel Interface Module	Access Panel Interface Module	Access Panel Interface Module

SPECIFICATIONS - SYSTEM MODULES (3U SUBRACK MOUNT)

Power Supply	24VDC, TBA * A
Operation Mode - Master Control Module (MCM)	Master and Backup redundant operating system for master control module
Event Log - Master Control Module (MCM)	Record all events for up to 90* days, roll on recording reaching max from day 1
External Device Connectivity - MCM	Easy interface via RJ45 port for event log back up, configuration inputs and/or real time clock synchronization
Amplifier Interface Module	Dedicated Module, with dual audio channels, Ability to operate without MCM mode
Audio Interface Module	Two Input/Two Output per module, extendable up to 2 cards in lieu of other module
Telephone (PABX) Interface Module	Two PABX Telephone Line in per module, extendable up to 2 cards in lieu of other module
Access Panel Interface Module	It can interface up to two Access Panels per module. With standard 3U configuration, it can interface up to 10 Access Panels (via 5 Access Panel interface modules)
LED Status Indicators	LED indicators for Card Status, Com Status, Operation Status, and Power Supply Status
Hot Swab	It allows to replace individual module without shutting down whole system (hot swap)
Connectivity (MCM)	1 x RJ45 for HMI device connection, 1 x mini USB port for external storage device connection
3U Enclosure	Aluminium Frame and Front Panels, Powder Coated Enclosure Covers
Operating Temperature, Humidity	-40 °C to 70 °C@ Humidity 5% ~ 95%
General Dimension	134 H (3U) x 437 W x 249 D (mm)
Gross Weight	26 kg *

RISE - PAGA SYSTEM AD300 AMPLIFIER

AD300 AMPLIFIER

- 300W RMS rated output for 100V or 70V audio lines
- User-accessible amplifier system configuration and setting menu
- Password protection for local system configuration
- Guided prompt for start-up configuration for stand-alone operation (or) PAGA system linked operation
- Guided prompt for start-up configuration for speaker calibration
- Speaker load monitoring, loop monitoring and Amplifier health monitoring
- Zone configuration and N+1 hot standby configuration in multiple groups
- Provide priority sequencing back-up connection in N+1 group where by stand-by amplifier is made available for higher priority amplifier in N+1 connection in unlikely scenario of two or more amplifiers are failed during operation
- Compact 1U size 19 inch rack mount enclosure



SPECIFICATIONS - AD300 POWER AMPLIFIER

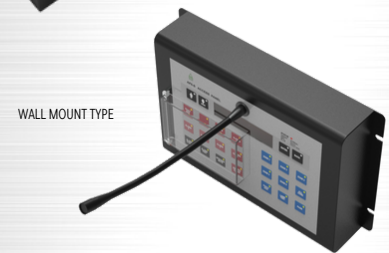
Power Supply	90 ~ 264VAC 50/60Hz, 2.5A @ 230VAC or 6.0A @ 110VAC
Output Power	300Wrms
Total Harmonic Distortion **	- ≤0.05% @ 1W - <2% @ 1KHz, full load
Signal to Noise Ratio	≥78dB
Output Noise Level	≤20 mV
Frequency Response	20Hz – 20KHz @ -3dB
Amplifier Efficiency	≥ 93%
Overall Efficiency	≥ 79% *
Line Output Voltage	70V or 100Vrms
Input sensitivity	0.775Vrms (0dBm) for rated output
Operating Temperature	-40 °C to 70 °C@ Humidity 5% ~ 95%
Digital Input	NC/NO Digital Contact Input x 1
Audio Input/ Output	2 x RJ45 for Audio, System Com IN/OUT Loop, 1 x Audio Input, 1 x Audio Out
Other Connectivities	N+1 Fail-Safe Configuration Connector, AC Power Input Connector, VDC Input**
Mounting	19" Standard Rack Mountable or Desktop
Enclosure Material	Galvanized Aluminium, Black Finish
General Dimension	313D x 483W x 44H (mm) 313D x 483W x 44H (mm)
Gross Weight	8 kg

AG6 ACCESS STATION

- Up to 8 Buttons for Alarms or Pre-recorded messages
- Alarm Clear, Alarm Test, Local Speaker Mute and Emergency Paging Buttons are provided as default
- Clear Protective cover to prevent accidental alarm activation
- Up to 6 buttons for Zones or pre-defined configuration for combination of zones
- Fault Acknowledge, Lamp Test and Normal Page Buttons are provided as default
- Provide fail-safe operation for emergency paging and activating alarms even in unlikely scenario of both master control modules are failed
- IP66 goose neck microphone is available as standard configuration and hand-held microphone connector is available as optional feature
- IP66 enclosure, available in desktop mount, wall mount or flush mount types
- Backlit LCD with informative display for operation status, system health status
- User navigation buttons for paging volume control, browsing system notification and accessing configuration setting
- Password protection for setting, configuration and paging volume setting



DESKTOP MOUNT TYPE



WALL MOUNT TYPE



FLUSH MOUNT TYPE

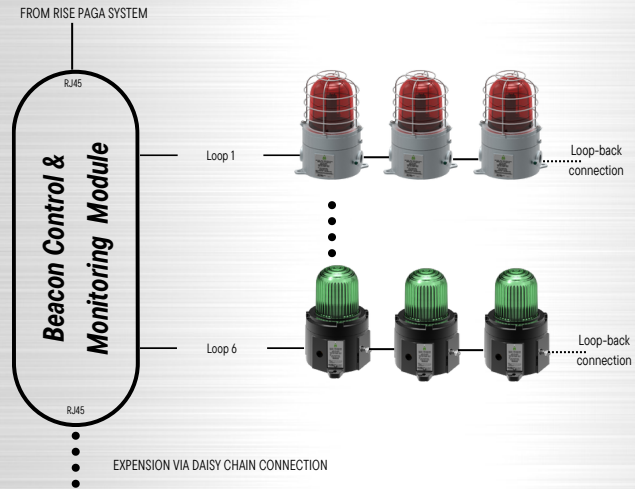
SPECIFICATIONS - ACCESS PANEL

Power Supply	24VDC, 300mA
Emergency Buttons	8 Buttons for Pre-assigned Alarms, Pre-recorded Messages
Zone Buttons	6 Buttons for Pre-assigned Zone, Combination of Zones
Page Buttons	1 x Emergency Page Button, 1 x Normal Page Button
Other Buttons	1 x Alarm Clear, 1 x Alarm Test, 1 x Lamp Test
Other Operation Buttons	1 x Fault Acknowledge, 1 x Local Speaker Mute
LED Status Light	Normal (Green), Fault (Red), Fault - Acknowledged (Blue)
LCD Status Display	Backlit LCD, System Status, Paging Status, Alarm Status, Access Panel ID, Local Configuration Menu Setting
Operating Temperature	-40 °C to 70 °C@ Humidity 5% ~ 95%
Microphone	Gooseneck, IP66, Ambient Noise Cancellation
Microphone	Optional feature: Hand-held microphone connectivity
Connectivity	1 x RJ45 for Audio Out, System Com
Connectivity - Power Supply	1 x 24VDC Inlet
General Dimension: Desktop Mount	270 W x 190 D x 100 H (mm)
General Dimension: Flush Mount	300 W x 190 D x 60 H (mm), 284 mm x 120 mm (Dia 7mm Mtg Hole x 4 Pcs)
General Dimension: Wall Mount	270 W x 190 D x 60 H (mm), 284 mm x 120 mm (Dia 7mm Mtg Hole x 4 Pcs)
Gross Weight	1.5 kg
IP Rating of Enclosure	IP66
Material of Enclosure	Powder Coated Aluminium, Black Finish

RISE - PAGA SYSTEM PERIPHERIAL DEVICE INTERFACE MODULES

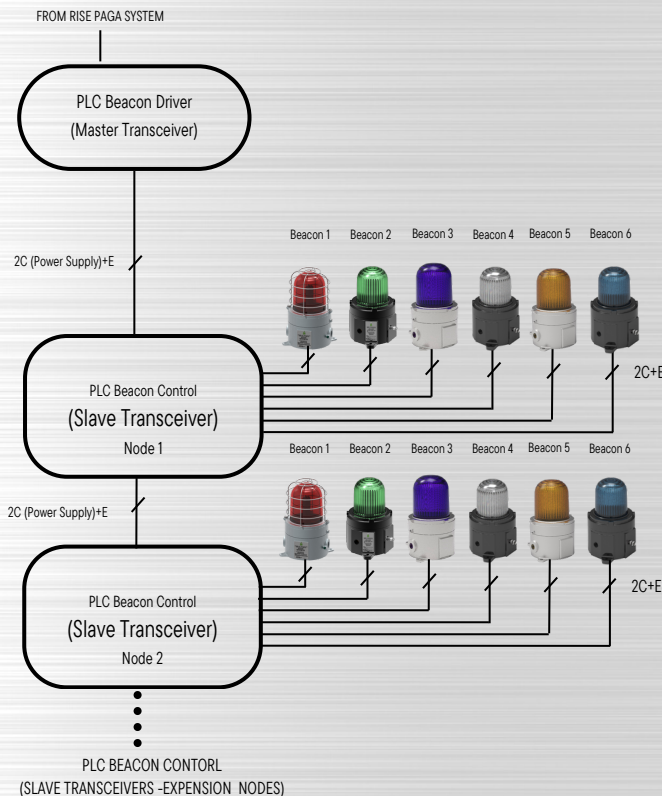
BEACON CONTROL AND MONITORING MODULE

- Able to drive up to 6 beacon loops per module with up to 30A per loop
- Capable to monitor loop status (open/short) and earth leakage fault
- DIN rail mount module with local LED indicator for loop status
- Optional expansion via daisy chain connection for up to 16 modules (up to 96 beacon loops)



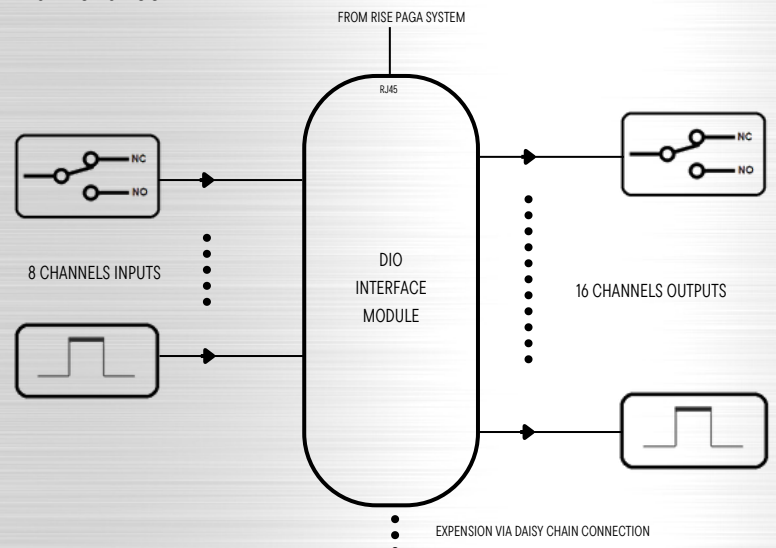
POWER LINE COMMUNICATION (PLC) BEACON DRIVER AND MONITORING

- One of Alphino **RISE** PAGA System's cutting-edge features is the ability to drive multiple beacons in different signaling colors from a single power supply line while it monitors line voltage, short or open, or earth leakage faults status
- One master controller can interface up to 255 node receivers of which each node drives up to six beacons (in different lens colour)
- With suitable rating of main power supply and power distribution cable, it can drive up to 1530 beacons (via 6 beacons per node) in single power supply loop while providing many advantages in reduction of wiring cost, ease of commissioning, operation and maintenance.



DIGITAL I/O INTERFACE MODULE

- Capable interface up to 8 digital inputs with isolated NC/NO ports or pulse triggered ports
- Provide up to 16 digital outputs with dry contact triggered via isolated NC/NO ports or pulse triggered port
- Optional expansion via daisy chain connection for up to 16 digital inputs and 32 digital outputs.



RISE - PAGA SYSTEM PERIPHERIAL DEVICE INTERFACE MODULES

SPECIFICATIONS - BEACON DRIVER AND MONITORING MODULE

Power Supply	24VDC, 400mA
Compatible Operating Voltage for Beacons	24VDC, 48VDC, 110VAC, 230VAC (Operating voltage of beacon loops)
Contact Rating of Relay for each Loop	30A@230VAC
Operating Temperature	-40 °C to 70 °C@ Humidity 5% ~ 95%
Status Monitoring Features	Loop status on short circuit, open circuit and earth leakage. Power supply status.
Number of Loop per Card	6 Beacon Loops
Extension Limit	Maximum 8 Cards
Fixing Method	Snap fit DIN rail
Connectivity to main system	RJ45 x 2 ports
General Dimension	270 L x 107 W x 55 H (mm)
Gross Weight	0.8 kg (Not included with relay weight)

SPECIFICATIONS - POWER LINE BEACON DRIVER AND MONITORING MODULES

Power Supply	24VDC, 350mA (Master Transceiver Only)
Compatible Operating Voltage for Beacons	110VAC, 230VAC (Operating voltage of beacon loops)
Numbers of Node (Slave Transceiver)	Up to 255 Slave Transceiver Nodes (Subject to limit on Beacon Power Supply Rating)
Numbers of Beacon per Node (Slave Transceiver)	6 Beacons Per Node (Per Slave Transceiver) driving via 2C+E to each beacon
Status Monitoring Features	Loop status on short circuit, open circuit and earth leakage. Power supply status.
Operating Temperature	-40 °C to 70 °C@ Humidity 5% ~ 95%
Connectivity to main system	RJ45 x 1 port (Master Transceiver)
General Dimension (Master Transceiver)	82L x 112W x 55H(mm), Snap fit DIN rail mount
General Dimension (Slave Transceiver)	75L x 112W x 55H(mm), Snap fit DIN rail mount, Ex 'd' JB required
Gross Weight	0.6 kg (Master Transceiver), 0.4kg (Slave Transceiver)

SPECIFICATIONS - DIGITAL I/O MODULE

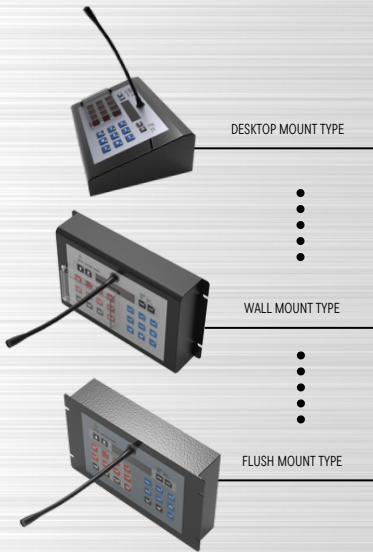
Power Supply	24VDC, 600mA
Connectivity to main system	RJ45 x 2 ports
Number of digital input (per card)	8 inputs: NC/NO/Pulse Triggered (pre-configured)
Number of digital output (per card)	16 outputs: NC/NO/Pulse Trigger (pre-configured)
Expansion Card	Cascade expansion via 2nd card provides up to 16 digital inputs and 32 digital outputs in total
Operating Temperature	-40 °C to 70 °C@ Humidity 5% ~ 95%
Fixing Method	Snap fit DIN rail
General Dimension	270 L x 107 W x 55 H (mm)
Gross Weight	0.6 kg

RISE PAGA SYSTEM OVERALL CONFIGURATION


FULL SYSTEM CONNECTION WITH PERIPHERALS, MAPPING AND EXAMPLES FOR OPTIONAL EXPANSIONS

- Desktop Mount Type
- Wall Mount Type
- Flush Mount Type
- Up to 16 Access Stations

- Up to 6 Beacon Colours(Loops) Per Card
- Extension Card Available to drive additional Beacon Colours (or) expansion Beacon Loops
- Power Line Communication Beacon Driver Interface As Optional Feature

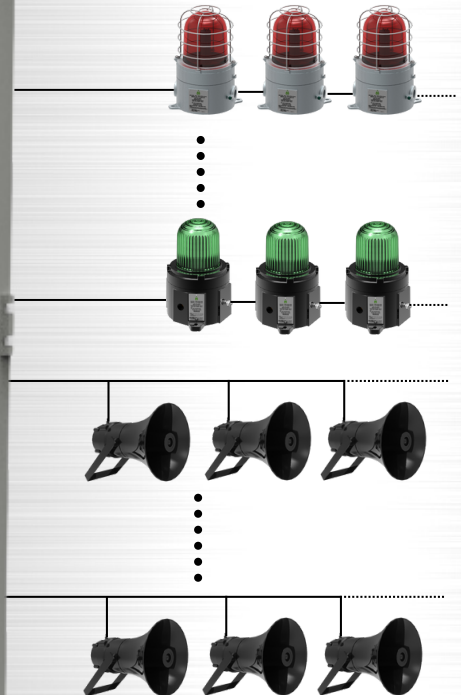


- PABX Interface
- Up to 2 Lines Interface
- Automatic End of Speech Detection and smooth paging

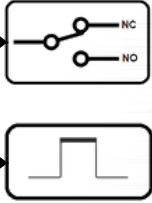
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- Audio In/Out Interface
 - 4 Audio Inputs or 2 Input & 2 Outputs
 - Available to interface 330ohms or 600 Ohms Line Interface



- Digital Input Interface
- Up to 8 Isolated Inputs as Standard or 16 Inputs with Extension Module
- Able to interface with pulse trigger, NC/NO trigger



- Up to 6 Zones
- Speaker Loop Health Monitoring
- Speaker Load Monitoring and Load Calibration
- Overload protection and smart monitoring and adjustment on audio driving level to speaker load

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- Digital Output Interface
 - Up to 16 Isolated NC/NO Outputs or 32 NC/NO Outputs with Extension Module
 - Able to provide NC/NO trigger or pulse trigger