Product Overview
Jay Radio Remote Controls

CONDUCTIX
wampfler

Is Safety your priority?

In a world where mobility is an ever-growing challenge, both for humans and machines, remote controls offer a safe way of operating or monitoring machines from a distance.

Jay line of remote controls from Conductix-Wampfler provides safety radio communications to ensure the mobility of humans and industrial equipment in safe and efficient conditions even in the harshest environments.

Whether on overhead cranes, on industrial vehicles, in automated warehouses, for factory automation, for railway renovation – people rely on **Jay radio remote controls**.

The comprehensive range offers countless solutions to adapt to an extensive number of applications.

Is Safety your priority?
Our solutions are certified even in the harshest environments!

Do you operate in explosive environments?
You can rely on our robust ATEX range!

Do you want to connect to your industrial automation network?
Our solutions are compatible with most of them!

Reasons to trust us :

- Expertise in radio solutions based on 35 years of experience on the field

- Able to adapt to each application and environment

- Complete offering for explosive environments supported by highly professional technicians

- Highly trained employees, focused on customer success

- Located in Grenoble, french electronics cluster

- Collaboration with research laboratories and innovative startups that drives innovation

- Continuous progress culture proven through ATEX-IECEx and ISO 9001-2015 certificates granted since 1996

- Application configuration stored in customer proprietary file: a guarantee for confidentiality and autonomy

- Free of charge tools for customers to update and improve their solutions

Beta transmitter ready for use on a mobile gear

Applications

Beyond our radio technology and safety expertise, our history is based on in-depth knowledge of the applications of our customers.From the base of our standard products and features, we design a solution that matches with your specific application and its environment. Through our customer relationships we have become well versed with a broad spectrum of dangerous environments. We take pride in our strong ability to integrate a radio transmission system within all types of electrical or electronic architectures.

Overhead cranes

For more than 35 years, our solutions have been widely used for industrial lifting and handling machinery. Advanced features like infrared startup validation, multiple equipment management and connectivity with industrial automation systems target advanced overhead cranes installations such as:

- **Synchronized multi-cranes management**

- **Automatic process cranes with industrial bus interfaced with radio control**

- **Harsh environments : nuclear, explosive, high dust, high temperature**

Besides lifting and handling activities, Jay solutions proved their relevance in the fields below:

Intralogistics

- Mobile equipment fleet management in fully automated warehouses

- Semi-automatic operation of pallet shuttles

- Manual takeover of autonomous guided vehicles for maintenance purpose

- Control of mobile racks

Factory automation

- Supervision of a continuous process via a handheld terminal wirelessly connected to the factory's automation system

- Management of blocked-access areas to allow maintenance and troubleshooting without production shutdown

- Wireless machine to machine transmission of emergency stop signal and digital inputs/outputs

Industrial vehicles

- High-pressure control and articulated arms movement on vacuum trucks

- Operator presence detection and liquid gas transfer on road tankers, under potentially explosive conditions

- Bin loading / unloading on bulk bin trucks

People transport equipment

- Emergency stop or speed reduction control for ropeway installations or amusement rides

- Manual takeover of driverless shuttles

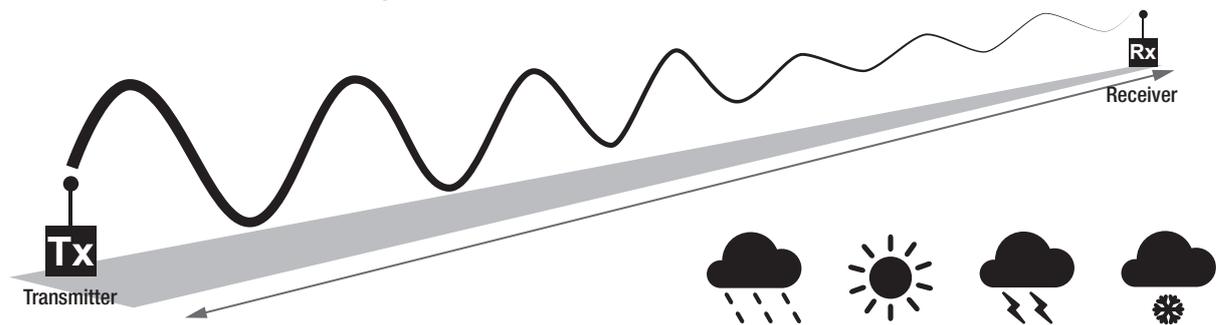**Liquid and bulk transfer under potentially explosive conditions**

- Operate marine loading arms for oil & gas transfer in ports

- Spirits transfer control in distillery caves where confined alcohol vapors pose a risk of explosion

- Ship's deck control of coal loading conveyor at port bulk terminal

Construction

- Manage stone dump from ballast machinery for railways renovation

- Remote clamping of drilling pipes

- Move and operate mobile crushers

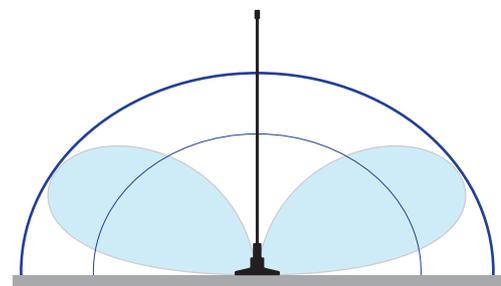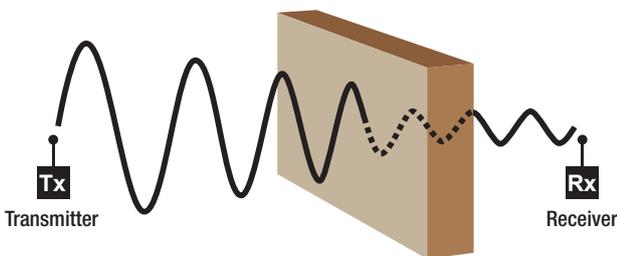- Control concrete pumps and concrete projection equipment

Basics about radio transmission

The use of radio communications in industrial environments is marked by different factors that affect the propagation of radio waves and influence their attenuation, including:
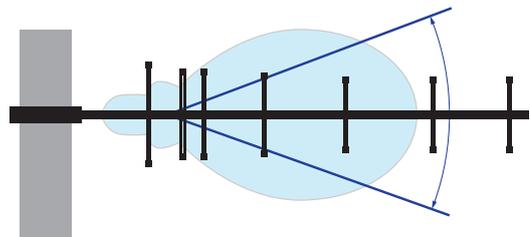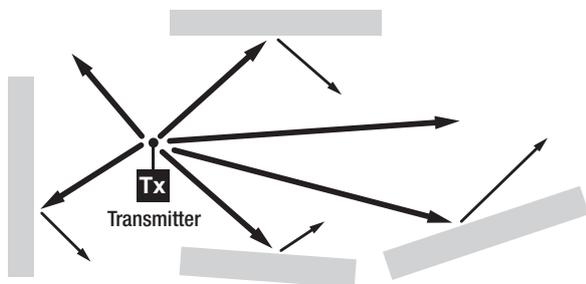

Rx Receiver

Tx Transmitter

Distance between transmitter and receiver, say an operator and a machine

Meteorological and environmental phenomena, such as atmos pheric conditions such as rain, snow, storms, etc., along with dust or pollution affect radio waves propagation

Tx Transmitter

Rx Receiver

Emission diagram for an omnidirectional antenna

Tx Transmitter

Physical medium, i.e. the quantity and nature of obstacles that exist between the transmitter and the receiver

Emission diagram for a directional antenna

Antennas, which radiate and capture the radio waves, with an efficiency related to their shape and electrical properties

How to achieve a reliable radio link?

A failure in radio transmission might result in:

• a loss of security, if an emergency stop were missed
• operating losses, as a result of production downtime caused by operator to machine miscommunication

Surely, maintaining a reliable radio link is critical for best industrial performance.

Jay's experience in safety radio implementation in all sort of industrial environments built a strong field expertise with the ways and means to guarantee reliable transmission.
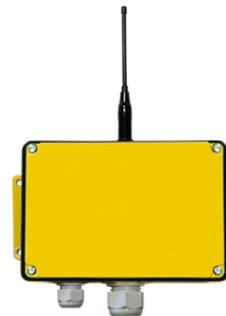
Our means:

Adjustable emission power
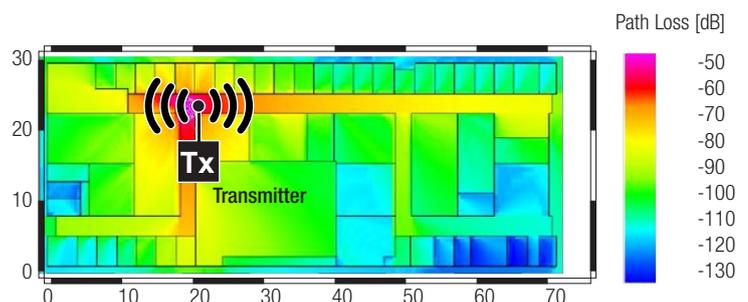

Long-range on-demand

Broad range of antennas to adapt to each environment

Repeater for adverse situations such as highly-packed warehouses

Radio signal strength indication to map radio conditions in the operating zone

Path Loss [dB]

Jay Radio Remote Controls Overview

Jay Radio Remote Controls offer a broad spectrum of solutions to adress the control and the emergency stop of all kinds of industrial machines or vehicles. Selecting the best adapted solution depends on the answers to the questions below.

	Industrial RRC		
	Orion Series	**UD Series**	**Beta Series**
Control			
Direct	●	●	
Advanced			● A D V A
Safety Level			
SIL 2 - PLd		●	
SIL 3 - PLe			●
Environment			
ATEX			●
Corrosive | metal dust			

● **How will the radio receiver be connected to the machine to control?**

- Advanced Control series can connect to an automation system via the most common industrial buses (Profinet / Profibus, EtherCAT, Ethernet/ IP, CANopen, Modbus, …). A 2-way radio link between transmitters and receivers allow feedback transmission to the automation system. The automation system can in return use the transmitters screens as remote mobile terminals to display information to operators.

- The UD and Orion series are designed for direct control of machineries through relay outputs.

Safety Radio Remote Controls

Gama Series	Pika-Moka Series	RadioSafe Series
		●
N C E D ● C O N T R O L	●	
●	●	●
●	●	
●		

● **What is the required emergency stop safety level?**

- The SIL 3-PLe series (Advanced Control & RadioSafe) must be used for the most dangerous or difficult to protect applications

- The SIL 2-PLd UD series covers moderately dangerous applications or the ones that can be partly protected

- Orion industrial radio remote controls are suitable for applications where no certified emergency stop is required

● **Will the system operate in severe environmental conditions?**

- ATEX versions of Advanced Control series are dedicated to explosive environments

- Optional features on Advanced Control series address corrosive vapors, metal dust

- Wearing thick gloves is no obstacle to ergonomic working conditions with Gama and Pika-Moka transmitters

Industrial Radio Remote Controls
Orion Series

The Orion Series address a wide range of industrial applications where versatile multifunction control is required, as for example:

- Lighting in halls of a very large plant with a single small device
- Large scale storage with access management of mobile shelves
- Truck drivers access to site gate and dock doors
- Industrial plant with sectional doors and several users

In addition to a reliable omnidirectional radio link between individually coded transmitter + receiver sets, Orion offers differentiating features such as:

- ON / OFF button on transmitters to avoid any unintentional action
- individual setting of the switching mode for each relay to operate a machine or device in a bistable / make / break mode
- programmable standby time delay to preserve battery power
- modification of the radio working frequency if already used on site
- radio power adjustment to set the radio range to the level required by the application
- receivers suitable for wall mounting or fastening on a DIN rail
- supplied with adhesive labels sheets with a large selection of symbols to match the application

Transmitters Orion Series

Orion offers 2 designs of transmitters:
- compact transmitter with 2 or 4 buttons – OREV
- multifunction transmitter for up to 16 buttons – OREL

**Both designs can be equipped with an ON/OFF button
to switch on and off the transmitter, thus avoiding any
unintentional action.**

IP 65 for outdoor use.

Radio transmission:
18 frequencies available in the 433 MHz band

Typical range*
- 150 m in unobstructed area
- 50 m in industrial indoor environment

* Metallic structures and other radio-transmitters on the
same 433 MHz band might affect radio-transmission, hence
reducing the range

Receivers Orion Series

**Receivers come in 3 models
with 2 to 9 function relays**

Relays operation
User-set operating mode:
- «Continuous make contact» : relay closed as long as
  transmitter button pressed
- «Continuous break contact» mode:
  The receiver relay remains open as long as the
  corresponding control button on the transmitter remains
  pressed.
- «Bistable» mode:
  The receiver relay is closed the first time the corresponding
  control button on the transmitter is pressed, and opens on
  the second time the control button is pressed.

Fixing
Magnetic contact for quick fixing on steel surfaces

Antennas
A complete range of antennas to optimize reception in all
situations:
- ½ wave for extended range
- magnetic base for fixing on steel surfaces
- feedthrough for vehicles

11

Safety Radio Remote Controls
UD Series

The UD Series provides safe and ergonomic distant control for cranes, machines or vehicles. A SIL 2 - PLd certified emergency stop makes it particularly suitable for material handling.

The range consists of:
- 4 sizes of pushbutton transmitters
- 3 sizes of receivers
- An extensive choice of antennas
- Numerous accessories: batteries, chargers, carrying accessories

The modular design allows personalization by choosing the type of pushbutton / switch and label for each location, the number of relay outputs, the programming of relay / buttons assignments, interlocking between buttons, secure start-up options.

UD remote controls makes operations safe, simple and reliable.

Safe
- Start-up validation by infrared pointing the transmitter towards the equipment to control for 100% error-free match-up
- Removable electronic key containing the receiver ID code to entrust authorized operators only
- Memorization of the number and duration of all operations

Simple
- Lightweight compact design to work without arm fatigue
- Ergonomic layout of pushbuttons enabling one-hand control
- Easy multi-user operation thanks to an instant infrared transmitter-receiver association at start-up

Reliable
- 12 hour battery life to cover one working shift
- Pushbutton/switch spares for easy individual replacement of worn buttons and further lifetime extension
- Dialog UD software for easy commissioning and maintenance: radio frequency programming, preventive maintenance alerts, diagnosis assistance and quality monitoring of radio reception

SIL 2-PLd
emergency stop

Transmitters UD Series

The transmitters come in 4 models with 2 to 10 function buttons. Each model also contains:

- an emergency stop palmswitch
- a «On/Horn» button

Function button type

- One-step pushbutton (single speed)
- Two-step pushbutton (double speed)
- Rotary switch with 2 fixed positions
- Rotary switch with 3 fixed positions
- Rotary switch with 3 positions with automatic return
- Electronic switch with 3 fixed positions

Fast charging battery to recover 1 hour of life after just 10 minutes charging time

Receivers UD Series

The receivers come in 3 models, URR, UCR and UDR with 6 to 18 function relays. Each model contains:

- A RS232 serial link for diagnosis and programming
- 1 «Horn» relay to trigger a warning tone
- 2 safety relays dedicated to the emergency stop

In addition, URR and UDR can connect and manage from 1 to 3 sets of infrared photocells for start-up validation or transmitter-receiver association

An IP65 protection index makes UD receivers suitable for outdoor use.

Safety Radio Remote Controls
Beta Series

Do you need a high level of safety to protect people?
Is your application very specific?
Is your process complex?
Do you want to move freely?
Do you prefer pushbutton operation?
Do you face explosion risks?

The Beta Series offers safe and agile pushbutton solutions to fulfill these requirements!

ATEX versions with a grey casing will even operate safely under permanent risk of explosion (gas: zone 0, dust: zone 20).

Beta 6

Beta 2

Multimode management

Multiple screen pages where each function button is allocated to a specific command.
For sure, with either 2 or 6 buttons, you will have enough!

Ergonomic

• Compact casing for easy one-hand use
• Buttons laid out to prevent undesired commands

Easy to set-up, easy to maintain through iDialog

• Click & set programing for straight 1 button = 1 function
• Store your configuration file and keep it confidential if needed
• Instant start of a new device: just upload the configuration file in it!
• Broad offering of spare parts allowing for extended lifetime

Accessible sophistication through iDialog

• Multimode management for screen display to fit on-going processing step
• Multiple conditions programing and value scaling
• Allow an external automation system control radio system behavior according to process values and external sensor data

SIL 3-PLe
emergency stop

Receivers for Beta Series

4 receivers and their many options adapt to a broad range of equipment:
- power wire or industrial bus interfacing
- fixed infrastructure, road-mobile, rail-mobile, rough terrain
- explosive atmosphere in dedicated cabinets with additional protection

Elio

Alto

Overhead crane specialist
- 12 relays
- 3 inputs (2 logic | 1 ana)
- Protocols: 1

Multifunction specialist
- 38 relays
- 42 inputs (36 logic | 6 ana)
- Protocols: 1

Timo

Nemo

Vehicle specialist
- 6 logic or PWM outputs
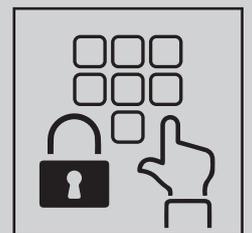- 2 analog outputs
- 3 inputs (2logic/1ana)
- Protocols: 1 | 2

Industrial automation specialist
- Protocols: 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8

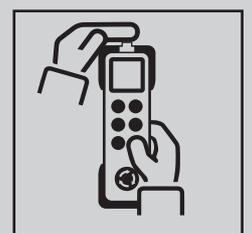**Protocols Overview**
1) Modbus
2) CANopen
3) DeviceNET
4) EtherNet/IP
5) PROFIBUS
6) PROFINET
7) Ethernet Powerlink
8) EtherCAT

Further enhance safety

PIN access code for authorized operators only

Combined pushbuttons for commands confirmation

Additional infrared link to ensure that:
- the operator stays within working area
- the right equipment has been selected

Safety Radio Remote Controls
Gama Series

Do you need a high level of safety to protect people?
Is your application very specific?
Is your process complex?
Do you operate in a harsh environment?
Do you prefer pushbutton operation?
Do you face explosion risks?

The Gama Series offer safe and robust pushbutton solutions to fulfill heavy-duty work requirements.

ATEX versions with a grey casing will even operate safely under permanent risk of explosion (gas: zone 0, dust: zone 20).

Gama 10

Gama 6

Multimode management

Multiple screen pages where each function button is allocated to a specific command.
For sure, with either 6 or 10 buttons, you will have enough!

Ergonomic

• Strong pushbutton tactile feedback even when wearing thick gloves
• Buttons laid out to prevent undesired commands

Easy to set-up, easy to maintain through iDialog

• Click & set programing for straight 1 button = 1 function
• Store your configuration file and keep it confidential if needed
• Instant start of a new device: just upload the configuration file in it!
• Broad offering of spare parts allowing for extended lifetime

Accessible sophistication through iDialog

• Multimode management for screen display to fit on-going processing step
• Multiple conditions programing and value scaling
• Allow an external automation system control radio system behavior according to process values and external sensor data

SIL 3-PLe
emergency stop

Receivers for Gama Series

4 receivers and their many options adapt to a broad range of equipment:
- power wire or industrial bus interfacing
- fixed infrastructure, road-mobile, rail-mobile, rough terrain
- explosive atmosphere in dedicated cabinets with additional protection

Elio

Overhead crane specialist
- 12 relays
- 3 inputs (2 logic | 1 ana)
- Protocols: 1

Alto

Multifunction specialist
- 38 relays
- 42 inputs (36 logic | 6 ana)
- Protocols: 1

Timo

Vehicle specialist
- 6 logic or PWM outputs
- 2 analog outputs
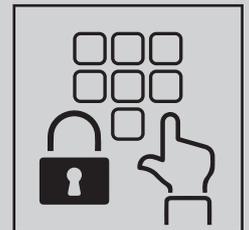- 3 inputs (2logic/1ana)
- Protocols: 1 | 2

Nemo

Industrial automation specialist
- Protocols: 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8

Protocols Overview
1) Modbus
2) CANopen
3) DeviceNET
4) EtherNet/IP
5) PROFIBUS
6) PROFINET
7) Ethernet Powerlink
8) EtherCAT

Further enhance safety

PIN access code for authorized operators only

SIL2

SIL 2 – PLd safety level pushbuttons with redundant optical cells to work in high danger environments (overhead cranes in foundries, robotized production cells,…)

IR

Additional infrared link to ensure that:
- the operator stays within working area
- the right equipment has been selected

Safety Radio Remote Controls
Pika & Moka Series

Do you need a high level of safety to protect people?
Is your application very specific?
Is your process complex?
Do you need to control motion with high accuracy?
Do you face explosion risks?

The Pika and Moka Series offer safe and accurate bellybox solutions to control complex equipment.

ATEX versions with a grey casing will even operate safely under permanent risk of explosion (gas: zone 0, dust: zone 20).

Pika

Moka

Multimode management

Multiple screen pages where each joystick, lever, button, toggle or switch is allocated to a specific command.
Let's get creative!

Mode 1 → Mode 2 → Mode 3 → Mode 1

Ergonomic

- Wide range of joysticks, pushbutton, toggle and selector variants for best use and comfort
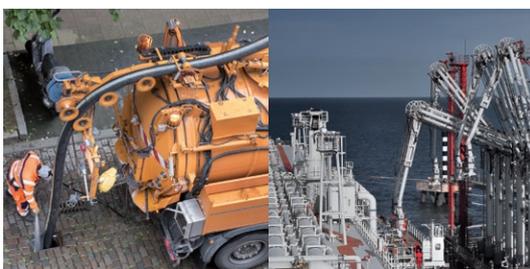- Levers available on Moka for one directional proportional control

Easy to set-up, easy to maintain through iDialog

- Click & set programing for straight 1 button = 1 function
- Store your configuration file and keep it confidential if needed
- Instant start of a new device: just upload the configuration file in it!
- Broad offering of spare parts allowing for extended lifetime

Accessible sophistication through iDialog

- Multimode management for screen display to fit on-going processing step
- Multiple conditions programing and value scaling
- Have an external automation system control the systems behavior according to process values and external sensor data

SIL 3-PLe
emergency stop

Receivers for Pika & Moka Series

4 receivers and their many options adapt to a broad range of equipment:
- power wire or industrial bus interfacing
- fixed infrastructure, road-mobile, rail-mobile, rough terrain
- explosive atmosphere in dedicated cabinets with additional protection

Elio

Overhead crane specialist
- 12 relays
- 3 inputs (2 logic | 1 ana)
- Protocols: 1

Alto

Multifunction specialist
- 38 relays
- 42 inputs (36 logic | 6 ana)
- Protocols: 1

Timo

Vehicle specialist
- 6 logic or PWM outputs
- 2 analog outputs
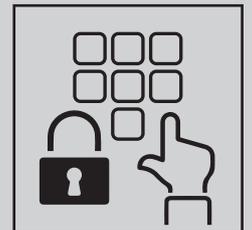- 3 inputs (2logic/1ana)
- Protocols: 1 | 2

Nemo

Industrial automation specialist
- Protocols: 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8

Protocols Overview
1) Modbus
2) CANopen
3) DeviceNET
4) EtherNet/IP
5) PROFIBUS
6) PROFINET
7) Ethernet Powerlink
8) EtherCAT

Further enhance safety

PIN access code for authorized operators only

Pushbutton joystick for commands confirmation

Additional infrared link to ensure that:
- the operator stays within working area
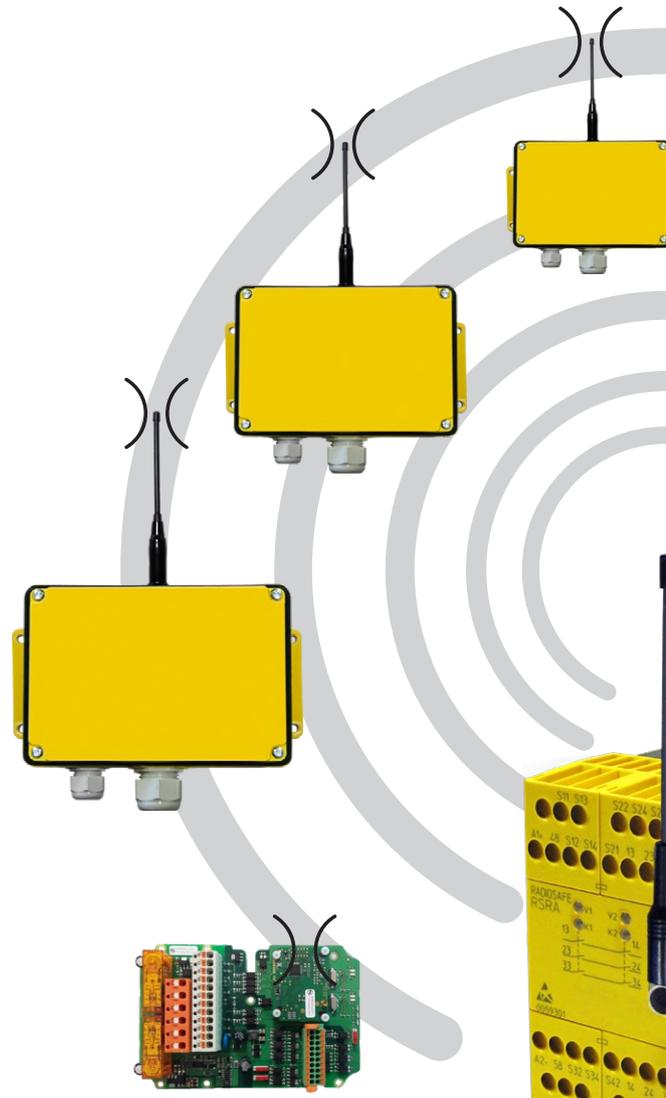- the right equipment has been selected

Safety Radio Remote Controls
RadioSafe Series

The RadioSafe Series utilizes a SIL 3 – PLe wireless emergency stop to tackle critical dangers typically met in highly automatized factories / warehouses, robotized production cells and continuous process lines.

Maintenance interventions under live conditions in normally blocked-access areas is a major challenge, particularly if a risk of electric shock exists.

The equipment to transport people requires the same level of safety: ski ropeways, amusement rides, lifting platforms.

Safe Stopping + Restarting of unlimited numbers of AGVs at once

Global safety
- much more than individual machines safety
- SIL 3-PLe TÜV Süd certified solution
- independent from any navigation solution
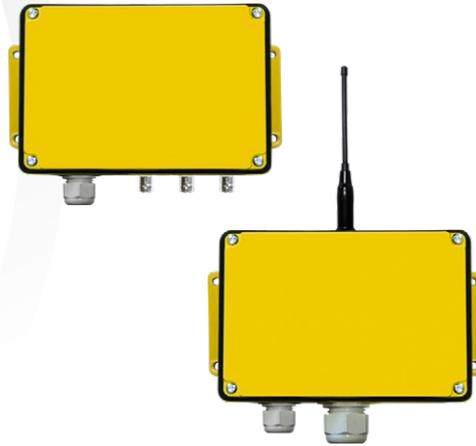- operators absolute safety within fleets of AGVs

Controlled halt
- draw a « stop pattern » within a whole fleet of AGVs to create access evacuation routes
- keep track of AGVs exact locations even during the most critical circumstances

Global wireless productivity
- instantly restart an entire fleet of AGVs
- send dedicated commands to each machine
- remotely change parameters of all receivers
- upgrade installation throughout its lifecycle

SIL 3-PLe
emergency stop

Operator portable emergency stop

Access of technicians to the core of industrial machineries might be required:
• for maintenance or repair operations
• to setup and adjust a process with best efficiency

RadioSafe portable emergency stops steps up to the challenge of protecting them.

Validation handle

A 3-step trigger allows normal operation while half pressed. When released (fall, fear) or fully pressed (electric shock) all processes stop immediately.

In addition, 4 function buttons allow commands to be sent to the machines.

Breast worn remote control

The emergency stop of a compact remote control is always within reach.
Both hands remain free to work.

In addition, 4 function buttons allow controlling equipment or process lines

21

Customized Services

Tailored all-in-one solutions

Conductix-Wampfler offers a complete range of services developed in consultation with our Customers.

Application support

- Recommendation of tailored-solutions
- Programming of customized configuration files
- Help defining receiver to machine wiring

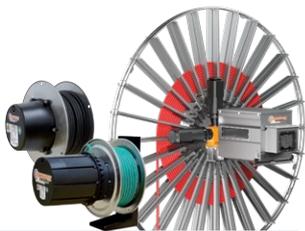### Installation and commissioning

- Assistance to set-up / installation
- On-site intervention for the commissioning of complex installations
- Technical validation
- Fixing possible radio perturbations

Training

- Training sessions in our premises or in yours to bring you maximum autonomy
- Advanced maintenance training to qualify for the delivery of advanced level spare parts

Your Applications – our Solutions

The solutions we deliver for your applications are based on your specific requirements. In many cases, a combination of several different Conductix-Wampfler systems can prove advantageous. You can count on Conductix-Wampfler for hands-on engineering support together with the optimum solution to safely meet your needs.

Cable and Hose Reels

Motor driven and spring driven reels by Conductix-Wampfler provide energy, data and media over a variety of distances, in all directions, fast and safe.

Festoon Systems

Conductix-Wampfler cable trolleys can be used in virtually every industrial application. They are reliable, robust and available in an enormous variety of dimensions and designs.

Conductor Rails

Available as enclosed or multiple unipole systems, Conductix-Wampfler conductor rails reliably move people and material.

Inductive Power Transfer IPT®

The no-contact system for transferring energy and data. For all tasks that depend on high speeds and absolute resistance to wear. Flexible installation when used with Automated Guided Vehicles.

Non-insulated Conductor Rails

Robust, non-insulated aluminum conductor rails with stainless steel cap provide the ideal basis for power supply of people movers and transit networks.

Radio Remote Controls

Safety remote control solutions customized to meet our customer needs with modern ergonomic design.

Reels, Retractors and Balancers

Available for hoses and cables, as classical reels or high-precision positioning aids for tools, we offer a complete range of reels and spring balancers.

Jib Booms

Complete with tool transporters, reels or an entire media supply system – safety and flexibility are key to the completion of difficult tasks.

Slip Ring Assemblies

Whenever things are really "moving in circles", the proven slip ring assemblies by Conductix-Wampfler ensure the flawless transfer of energy and data. Here, everything revolves around flexibility and reliability!

Mobile Control Systems

Mobile control solutions for your plant – wether straightforward or intricate. Control and communication systems from LJU have been tried and tested in the automotive industry for decades.

ProfiDAT

This data transfer system is a compact slotted waveguide and furthermore can be used as Grounding rail (PE) as well as positioning rail at the same time.

www.conductix.com

KAT0500-0001a-EN

Conductix-Wampfler

has just one critical mission:
To provide you with energy and
data transmission systems that
will keep your operations up
and running 24/7/365.

To contact your nearest
sales office, please refer to:

www.conductix.contact

CONDUCTIX
wampfler