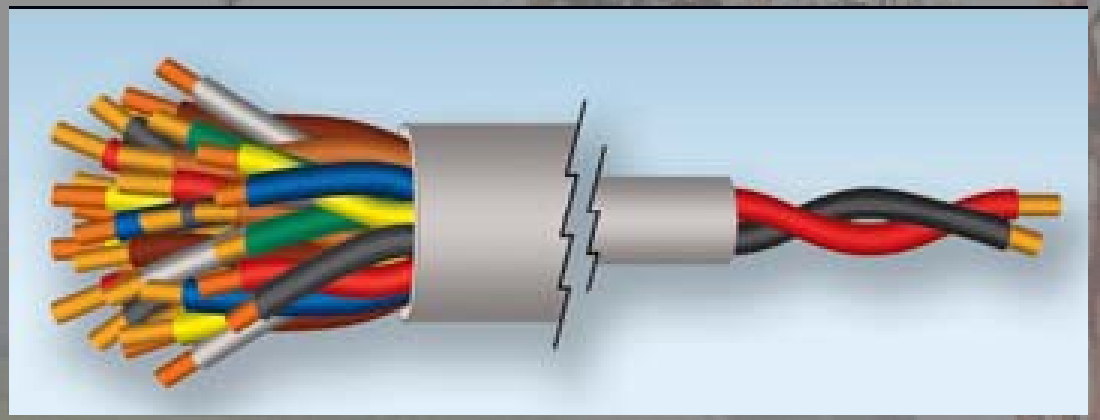
NHP
Wire reducing systems

Monitor
Measure
Control
NHP
Wire reducing systems

Masses of wiring to two

Irrigation
Building Controls
Conveyor controls
Mechanical Services
Energy Management
PFC Monitoring
Lighting Control
Winery Tank Levels
Golf Courses
Car Park Guidance System
Sewage/Water Controls



Any application needing many control and data signals spread over long distances.

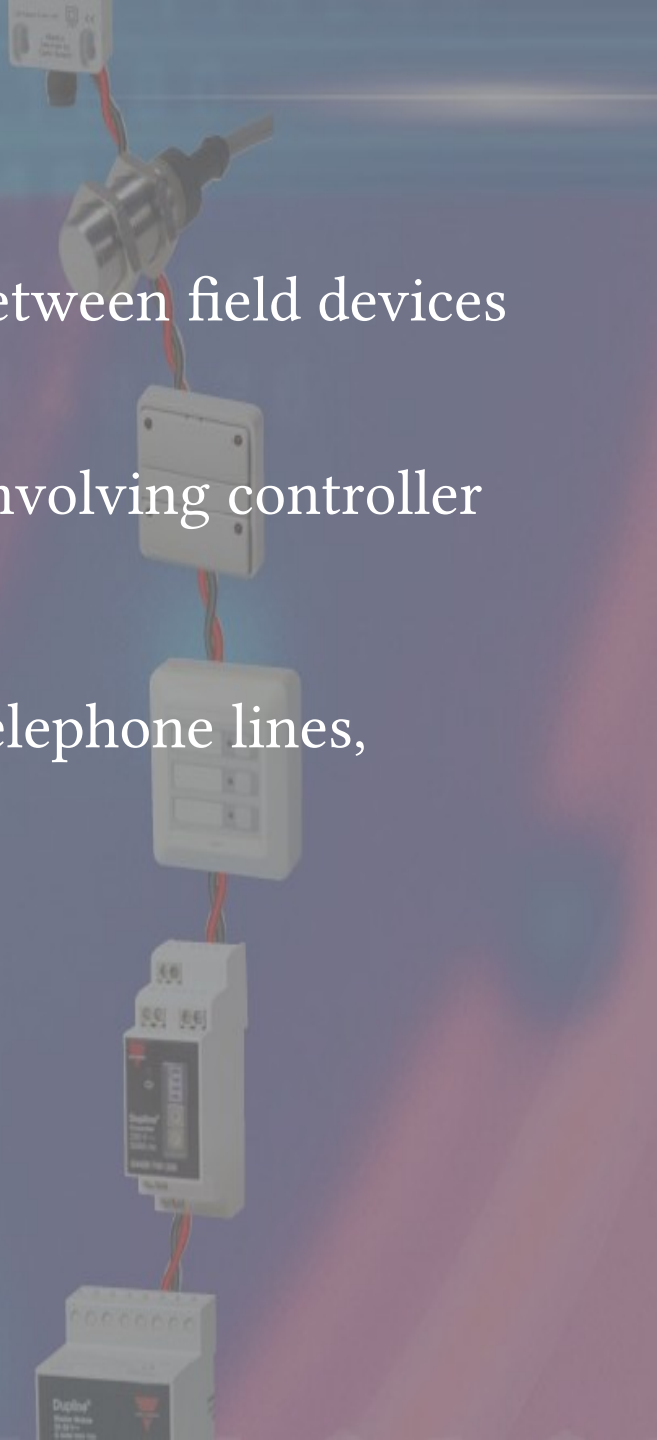
What is Dupline®

Fieldbus Installationbus

- Used as remote control to create the link between field devices switching devices and sensors.
- Signals transmitted peer to peer with out involving controller
- Signals can be transmitted on copper wire

  Fibre optic cable, radio modem, leased telephone lines, GSM modem

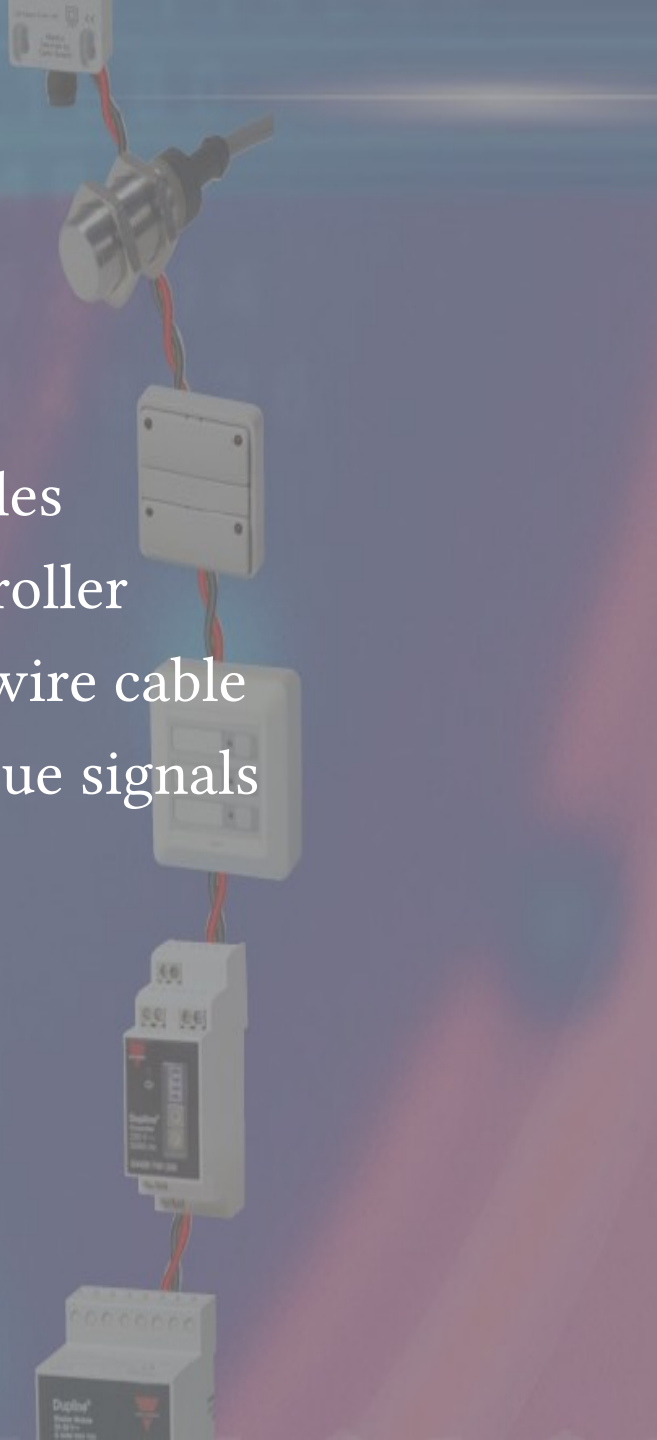
- More than 200 000 installations since 1986
- 21 year old modules still compatible today



What is Dupline®

Fieldbus Installationbus

- A field and Installation bus
  - Used to exchange data between modules
  - Used to exchange data to central controller
  - All modules are connected to same 2 wire cable
  - Transmits multiple digital and analogue signals
  - Over 10 Km via ordinary 2 wire cable
  - Modular design
  - Simple operating principle
  - New and existing applications
  - Simple to program



What is Dupline®

Fieldbus Installationbus

- Solutions engineered by combining products:
  - Digital and analogue I/O modules
  - PLC and PC interfaces
  - HMIs and Modems
  - Used to exchange data between modules
  - Used to exchange data to central controller

What is Dupline®

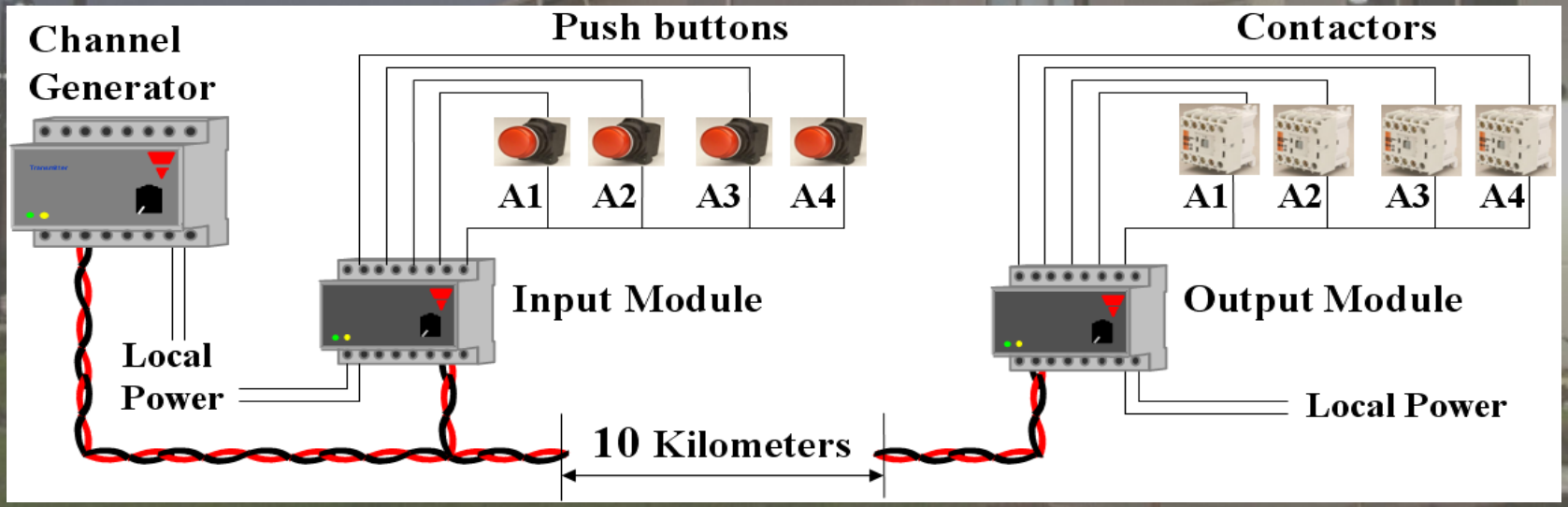
Fieldbus Installationbus

A way to communicate on a pair of wires

Controller **Input** **Output**

Allowing for future Expansion with Ease

Building Automation



G50101106
Bus-Powered
single input module
G34296470
Analogue inputs
INPUT MODULES
G88104401
Self-powered
light switch
input module
G4420740
Counter module
G34205501
Digital inputs
ADDRESS
CONFIGURATION
GAP1506
Handheld
coding unit
GTS377S
Touch screen
GTD50
Text Display
DISPLAY MODULES
G54606606
LED status
indicator
G38000015
Central unit and interface
Direct Interface to PLCs
and PCs via
•Modbus (RS 232, RS 485)
•Dedicated PLC protocols
•Profibus-DP
•DeviceNet
TEST UNIT
GTU8
Handheld
Bus-powered
test unit
G34910040
Private line modem
SATELLINE-3AS
Radio modem
G88301143
Bus-powered
single relay
output
G34404443
Digital
inputs/outputs
OUTPUT MODULES
G34485324230
Light dimmer
G34396470
Analogue outputs
G34305545
Digital outputs
G34930000
Optical converter
MODEMS AND
CONVERTERS
D389200
Repeater

Dupline® - HiLine Irrigation Control over 2 Wires

Valve I/O Modules

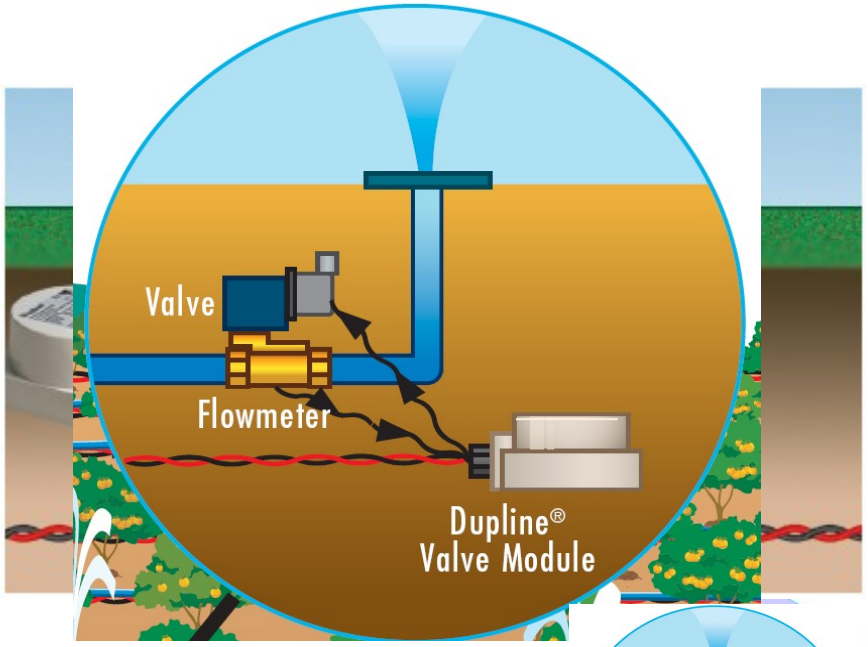
Powered by two wire bus

Underground installation IP68

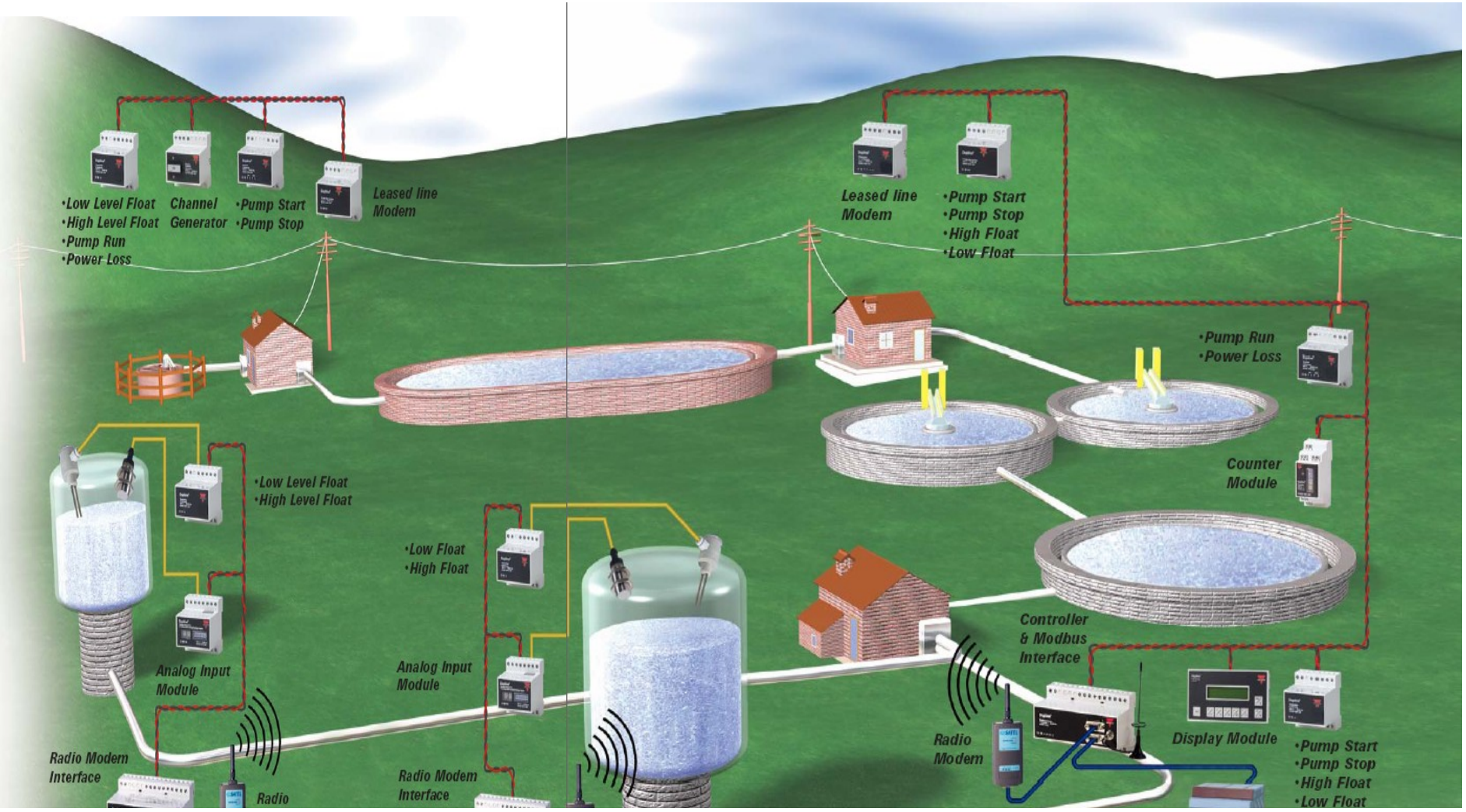
Valve open/close

2 inputs – pulses from flow meters

Safe low voltage - 28 Volts



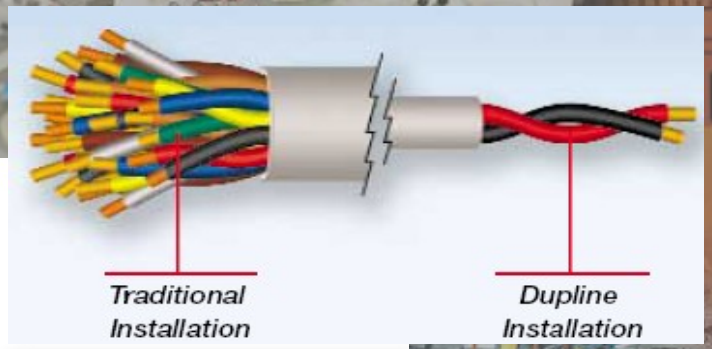
System can be as simple or as complex as you need

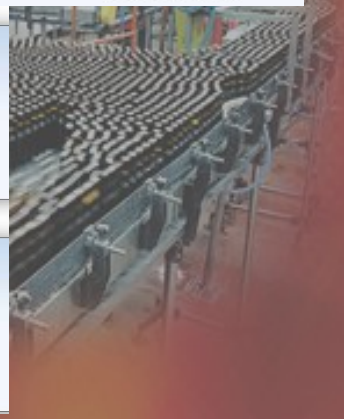


NHP

DUPLINE

CARLO GAVAZZI





Building Automation

Energy management

Digital Input Modules

Types	G4085 5561	G4185 5530
Dimensions (mm)	155 x 40 x 22.5	80 x 80 x 37
Functions	IR Remote control transmitter for control of lights, dimming roller blinds etc.	IR Remote control receiver.
Housing type	Handheld	Direct wall mounting

Digital Sensors

G89102116	G8910 2217	G8910 1101	G6110 1145
70 x 40 x 16	Ø 80 x 80	55 x 18	55 x 18
Water Sensor for detection of water on the floor in a building.	Smoke Detector for detection of smoke in a building.	Magnetic proximity Sensor. Used to monitor the state of windows etc.	Inductive Sensor. Used to monitor the state of doors etc.
Direct wall mounting	Direct mounting on ceiling.	Ø 11 or Ø 14 housing.	M18 standard alarm

Analogue Sensors

Digital Sensors

G4311 1120	G8611 1010	G8911 1010	G8910 1127
83 x 40 x 43	84 x 84 x 37	67 x 35 x 15	104 x 55 x 57
Light intensity sensor for indoor and outdoor use.	Temperature sensor for indoor use.	Temperature sensor for outdoor use.	Passive infrared sensor (PIR) for detection of movement of persons. Used for intruder alarm or light control.
Direct wall mounting.	ELKO	Flat pack sensor housing.	Direct wall mounting.

Dupline®
Fieldbus Installationbus

Light Switches

G8210

66 x 66 x 11

Light switch with built-in bus interface and individually adressable pushbuttons and LED's.

OPUS design

G8810 4401

28 x 28 x 10

Universal light switch interface for use with standard mechanical light switchs.

Ultrasmall size fo

Digital Output Mod.

G8810 1143

26 x 29 x 17

Decentral relay module with 1 x SPST relay for control of lights.

G3430 5545

77 x 72 x 70

Central relay module with 8 x SPST relay for resistive loads.

Digital Output Mod.

G3430 4249

77 x 72 x 70

Relay module with Interlocking relay for control of 2 rollerblind motors.

DIN-Rail, H4

Dimmer Modules

G4248 4134

72 x 72 x 85

Dimmer module with scenario (6 memory) functions.

DIN-Rail, H4

Digital Input Modules

G8810 1102

26 x 29 x 17

Decentral voltage input module for use with external PIR sensors.

Compact regular with solid cable.

G2110 4401

66 x 66 x 23

Alarm input module for use with external sensors in windows, doors etc.

Open PCB with standard alarm junction box enclosure.

Dupline®
Fieldbus Installationbus

Analog Output Mod.

G3439 6470
77 x 36 x 70
Universal analog output module for external supply.
DIN-Rail, H4

Digital Sensors

G6110 1145	G8910 1101
M18 x 55	Ø11 x 68
Dupline powered inductive proximity switch.	Dupline powered magnet proximity switch.
M18	Cylindrical

Analog Sensors

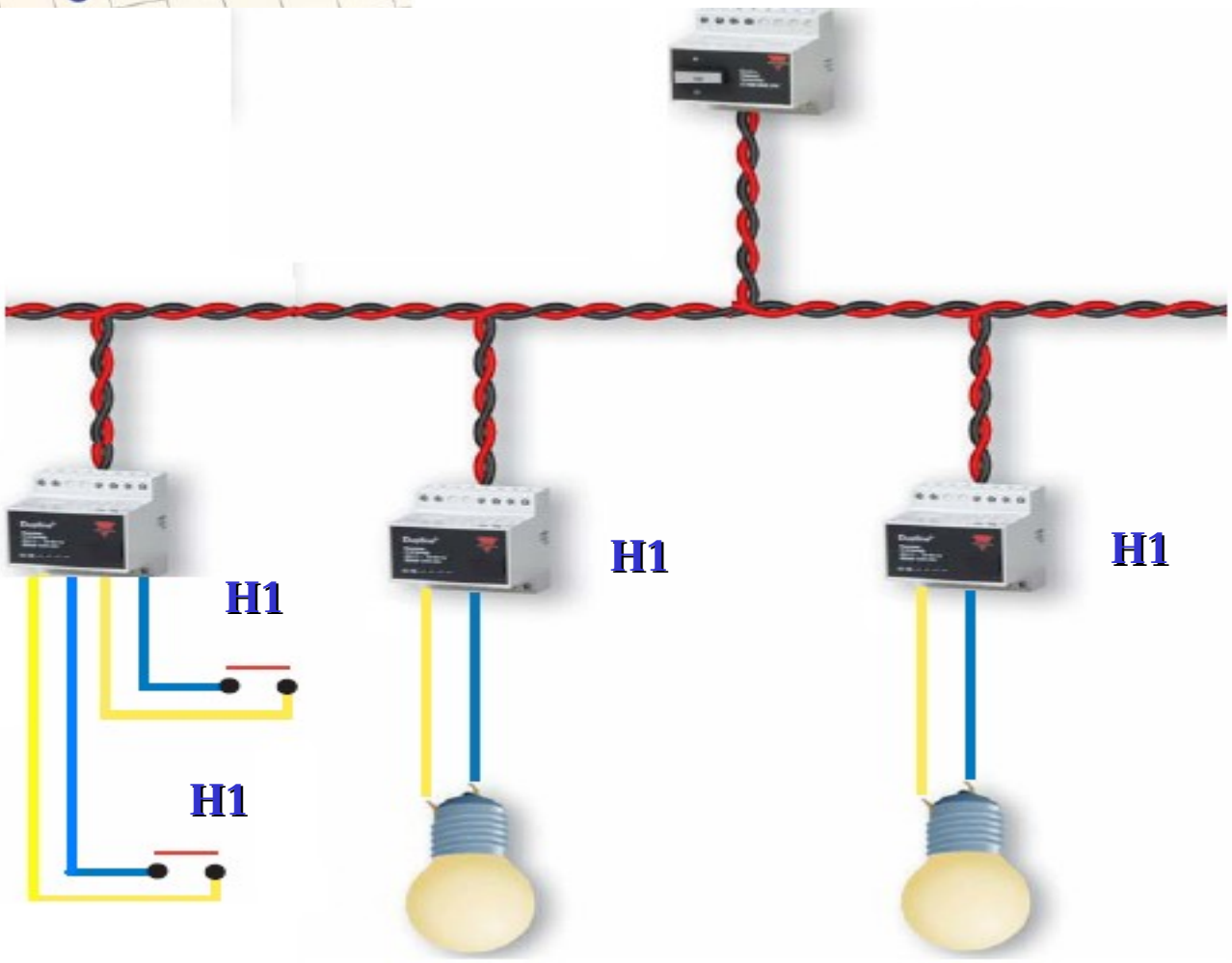
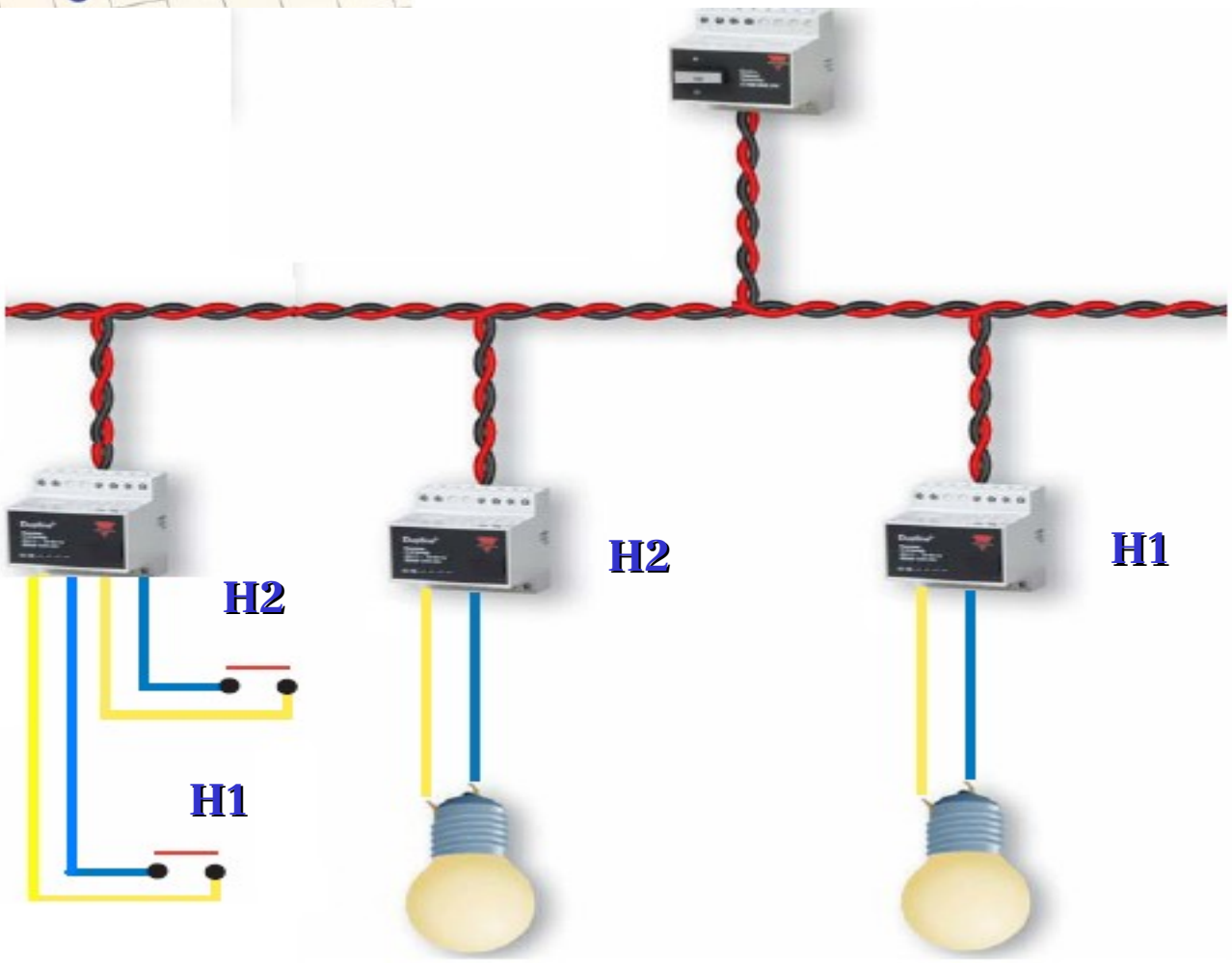
G8911 1010
67 x 35 x 15
Dupline powered temperature sensor with built-in Pt1000 transducer.
Flat-pack

Digital I/O Modules

G3440 4443	GH34404412	GH6440 4412
77 x 72 x 70	77 x 72 x 70	80 x 77 x 50
Combined I/O module for external supply with optoisolated inputs and relay outputs.	I/O module for irrigation valve control.	I/O module for irrigation valve control.
DIN-Rail, H4	DIN-Rail, H4	Fully molded housing for underground installation

Dupline®
Fieldbus Installationbus

Peer to Peer programming



Peer to Peer programming