

# Busbar Trunking Systems

*Canalis*<sup>®</sup>

In livestock production buildings

Application datasheet



Merlin Gerin  
Square D  
Telemecanique

**Schneider**  
 **Electric**  
*Building a New Electric World*

# The customer's needs



## For new constructions or rehabilitation

- Poultry farming (houses for egg-laying, breeding, turkeys, rabbits, ducks, etc.).
- Pig houses (fattening, birth, etc.).
- Cowsheds (calving, dairy cows, etc.).

The success of a livestock production farm greatly depends on the animal breeder's ability to maintain at top level the physiological comfort of his animals. All the livestock production buildings thus require many functions, in particular:

- lighting,
- ventilation,
- heating,
- air agitation.

## Lighting



It has a decisive influence on the equilibrium of animals:

- more light generates more growth. Poor quality lighting that is too weak results in mediocre productivity (fewer eggs, less milk, less growth, etc.),
- poorly adapted lighting (poor distribution of light points, fluorescent tubes, etc.) may have serious effects on animal behaviour (poultry, pigs, etc.),
- sudden power cuts increase the stress experienced by animals and compromise livestock production quality.

## Heating



During the first weeks of their life, animals are very sensitive to cold. This calls for use of a «Radiant» type heating (electric or more often gas with electrical switch-on). Here again failure may have serious consequences.

## Air stirring

Some egg-laying hen and rabbit farms are equipped with pits requiring use of air mixers to dry dejections.



## Ventilation



This is a vital piece of equipment. A failure may have disastrous consequences for the farm. It is essential to have an installation that is reliable and to be able to take action very quickly if necessary.



# The Canalis solutions

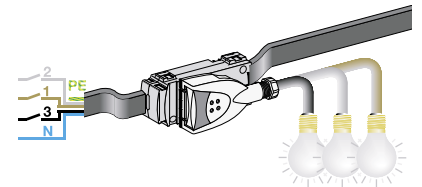
## The advantages of a range based on 30 years' of experience

- **Savings:** installation times cut by more than 50% compared with a traditional cable installation.
- **Upgradeability:** addition of items or modification of network is very easy, even at the last minute. Tap-off points are always available at the right place, regardless of the configuration of the room.
- **Continuity of supply:** addition, displacement or replacement of loads takes place with power on, in complete safety without affecting the activity.
- **Safety:** for protection of people, all live parts are fully protected: IPxxB. Connections are made in complete safety thanks to fool-proofing and locking mechanisms.



**Canalis KDP** or **KBA** allows very easy creation of a three-phase lighting installation. Thus, switching of light fittings is progressive (phase after phase), thus reducing animals' stress.

The degree of protection IP55 prevents insulation faults in event of water spraying to refresh the building or for cleaning operations.



**Canalis KDP** is recommended for gas radiant heating with electrical switch-on.

**Canalis KN** is recommended for electrical radiant heating.

With Canalis, implementation time is reduced.

Maintenance operations are performed while the installation is in operation. The tap-off units equipped with a protection device are connected and disconnected with power on in complete safety. This avoids tiresome to and fro trips between the electrical switchboard and the faulty heating components.



**Canalis KDP** allows very quick disassembly of fans. The pit cleaning operations can be organised very easily.



**Canalis KN** is used to place protection devices at ventilation level.

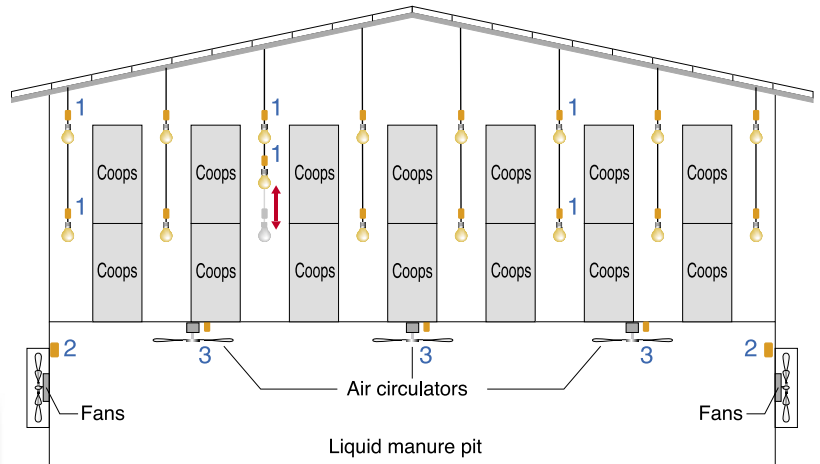
In event of failure, this avoids tiresome to and fro trips between the main switchboard and the place of the failure. Repair work is very quick and does not require stopping of the other fans.

# Application examples

## The laying house

### Special features

- Dimensions 18 x 125 metres (length varies from farm to farm).
- 7 rows of cages.
- Ventilation by 42 fans divided up on each side of the building.
- Pit equipped with 60 air circulators to dry dejections.
- Lighting by incandescent lamps
- 2 lines by aisle.



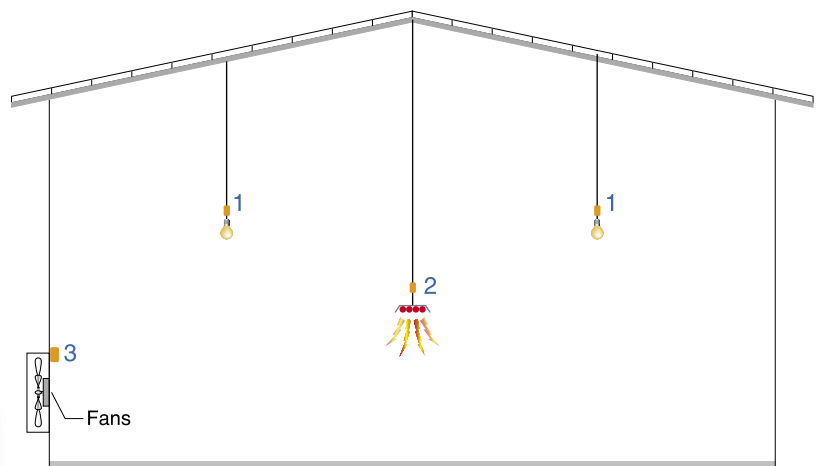
### Equipment installed

- Lighting
  - 2 x 8 lines of 116 metres of Canalis KBA 25 A (1).
  - 400 KBC10 connectors.
- Ventilation
  - 2 lines of 116 metres of Canalis KN 40 A (2).
  - 42 enclosures equipped with Multi 9 C60 circuit-breakers.
- Air stirring
  - 3 lines of 116 metres of Canalis KDP 20 A (3).
  - 60 KBC10 connectors.

## The breeding house

### Special features

- Dimensions 10 x 100 metres (length varies from farm to farm).
- Heating by 20 gas radiant radiators with electrical switch-on.
- Ventilation by 20 fans on one side of the building.
- Lighting by incandescent lamps.



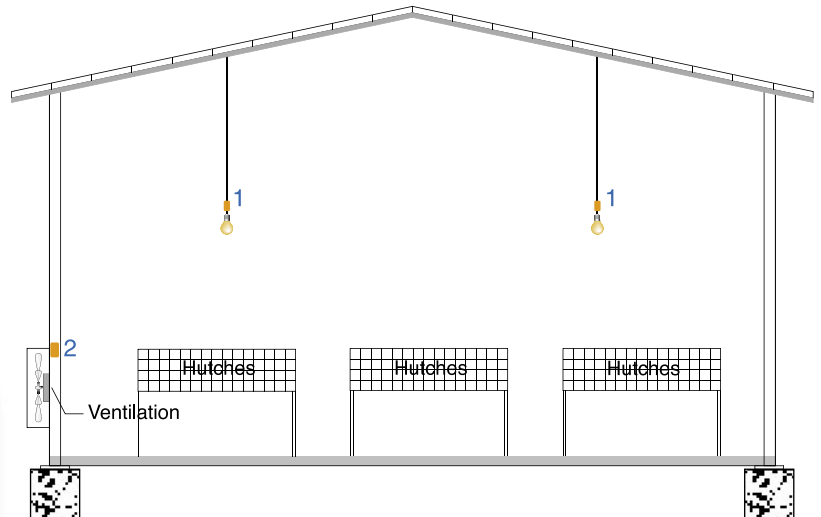
### Equipment installed

- Lighting
  - 2 lines of 97 m of Canalis KDP 20 A (1) or Canalis KBA according to building structure.
- Heating
  - 1 line of 97 metres of Canalis KDP 20 A (2).
- Ventilation
  - 1 line of 97 metres of Canalis KN 40 A (3).

## The rabbit building

### Special features

- Dimensions 10 x 30 metres (length varies from farm to farm from 25 to 40 metres).
- 3 rows of cages.
- Ventilation by 6 fans on one side of the building.
- Lighting by incandescent lamps.



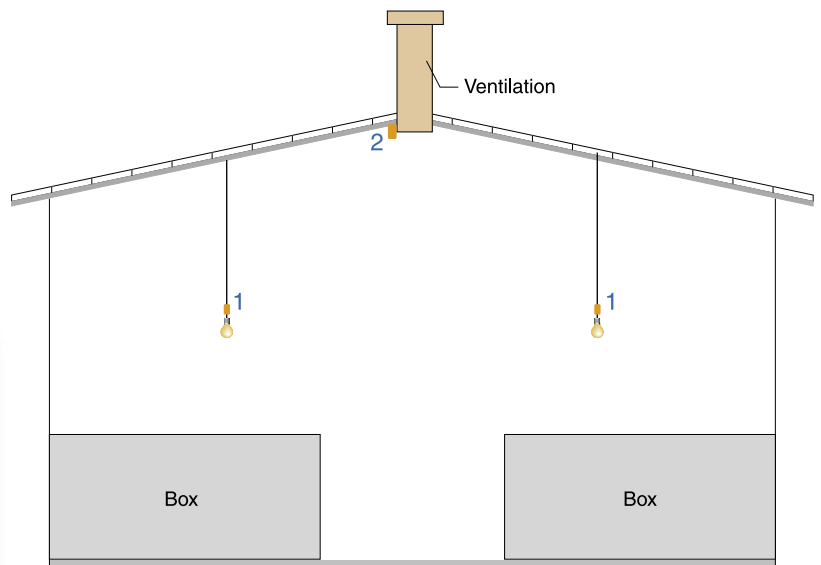
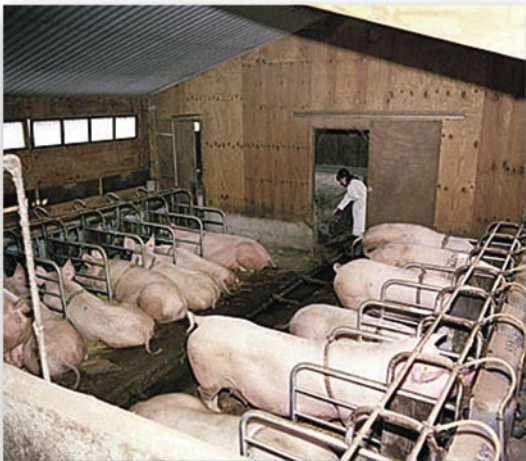
### Equipment installed

- Lighting
  - 2 lines of 27 metres of Canalis KDP 25 A (1).
  - 15 impervious KBL 2 x 58 W light fittings.
- Ventilation
  - 1 line of 27 metres of Canalis KN 40 A (2).
  - 6 enclosures equipped with Multi 9 C60 circuit-breakers.

## The pig breeding house

### Special features

- Dimensions 15 x 100 metres (length varies from farm to farm).
- 2 rows of boxes.
- Ventilation by 20 suction shafts.
- Lighting by incandescent lamps.



### Equipment installed

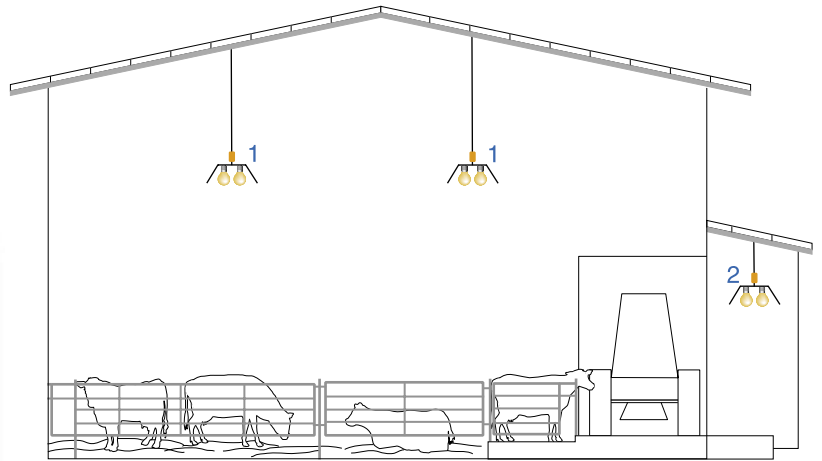
- Lighting
  - 2 lines of 97 metres of Canalis KBA 25 A (1) or Canalis KDP according to building structure.
  - 50 impervious KBL 2 x 58 W light fittings.
- Ventilation
  - 1 line of 97 m of Canalis KN 40 A (2).
  - 20 enclosures equipped with Multi 9 C60 circuit-breakers.

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## The cowshed

### Special features

- Dimensions 14 x 42 metres.
- Lighting by incandescent lamps.



### Equipment installed

- Lighting
  - 2 lines of 42 metres of Canalis KBA or KDP (1).
  - 1 line of 25 metres of Canalis KBA or KDP (2).
  - 35 impervious KBL 2 x 58 W light fittings.

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## *The Canalis advantages*

The building is immobilised for very little time during cleaning and maintenance operations. In event of a failure, location and repair of the faulty device is quick and performed with the busbar trunking energised, without operating downtime.

The building can easily be upgraded to meet changes in production, standards, regulations, etc.

Absence of tap-off boxes prevents rodent attacks (rats, mice, etc.).

For lighting as a whole, mounting time is cut by 3 for KBA lines and by 4 for KDP lines.

- 232 metres of Canalis KBA fixed in half a day by two people.
- 464 metres of Canalis KDP fixed in one day by just one person.

# A comprehensive offer

## A new path for achieving your electrical installations

Canalis is part of a comprehensive offer of products that are perfectly coordinated to meet all medium and low voltage electrical distribution requirements. All of these products have been designed to work together: electrical, mechanical and communication compatibility.

The electrical installation is thus both optimised and has improved performance:

- better service continuity,
- increased personnel and equipment safety,
- guaranteed upgradeability,
- efficient monitoring and control.

You therefore have all the advantages at hand in terms of know-how and creativity for achieving optimised, safe, upgradeable and compliant installations.

## The Schneider Electric products

### Lighting busbar trunkings

- **Canalis KDP:** flexible trunking
  - Nominal current 20 A.
  - 2 or 4 live conductors.
  - Tap-offs every 1,2 metres or 3 metres.
  - Tap-off connectors: 10 and 16 A.
  - Degree of protection IP55.
  - Packaged in a reel.
- **Canalis KBA:** rigid trunking
  - Nominal current 25 or 40 A.
  - 2 or 4 live conductors.
  - Tap-offs every 0.5 metre to 1.5 metres.
  - Tap-off connectors: 10 and 16 A.
  - Degree of protection IP55.

### Low power busbar trunkings

- **Canalis KN:** rigid trunking
  - Nominal current 40 to 160 A.
  - 4 live conductors.
  - Tap-offs every 0.5 metre to 3 metres.
  - Connectors and tap-off units: 16 or 63 A.
  - Degree of protection IP55.



Canalis KDP



Canalis KBA



Canalis KN



Prisma Plus cubicle

Prisma Plus enclosure

### Electrical switchboards

- **Prisma Plus cubicle:** main switchboard
  - Current rating I(e) at 40°C: 3200 A.
  - Permissible short-term rated current I<sub>cs</sub>: 187 kA rms./1s.
  - Degree of protection IP30 to IP55.
- **Prisma Plus enclosures:** subdistribution boards
  - Current rating I(e) at 40°C: 630 A.
  - Permissible short-term rated current I<sub>cs</sub>: 25kA rms./1s.
  - Degree of protection IP30 to IP55.

## Other applications

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- Garages
- Greenhouses
- Logistic centres
- Offices
- Hypermarkets
- Cruisers
- Industrial workshops
- Flooring tile plants
- Electronic plants
- Car factories
- Trade fairs and exhibitions

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