

PM320HS SERIE

TECHNICAL DOCUMENTATION

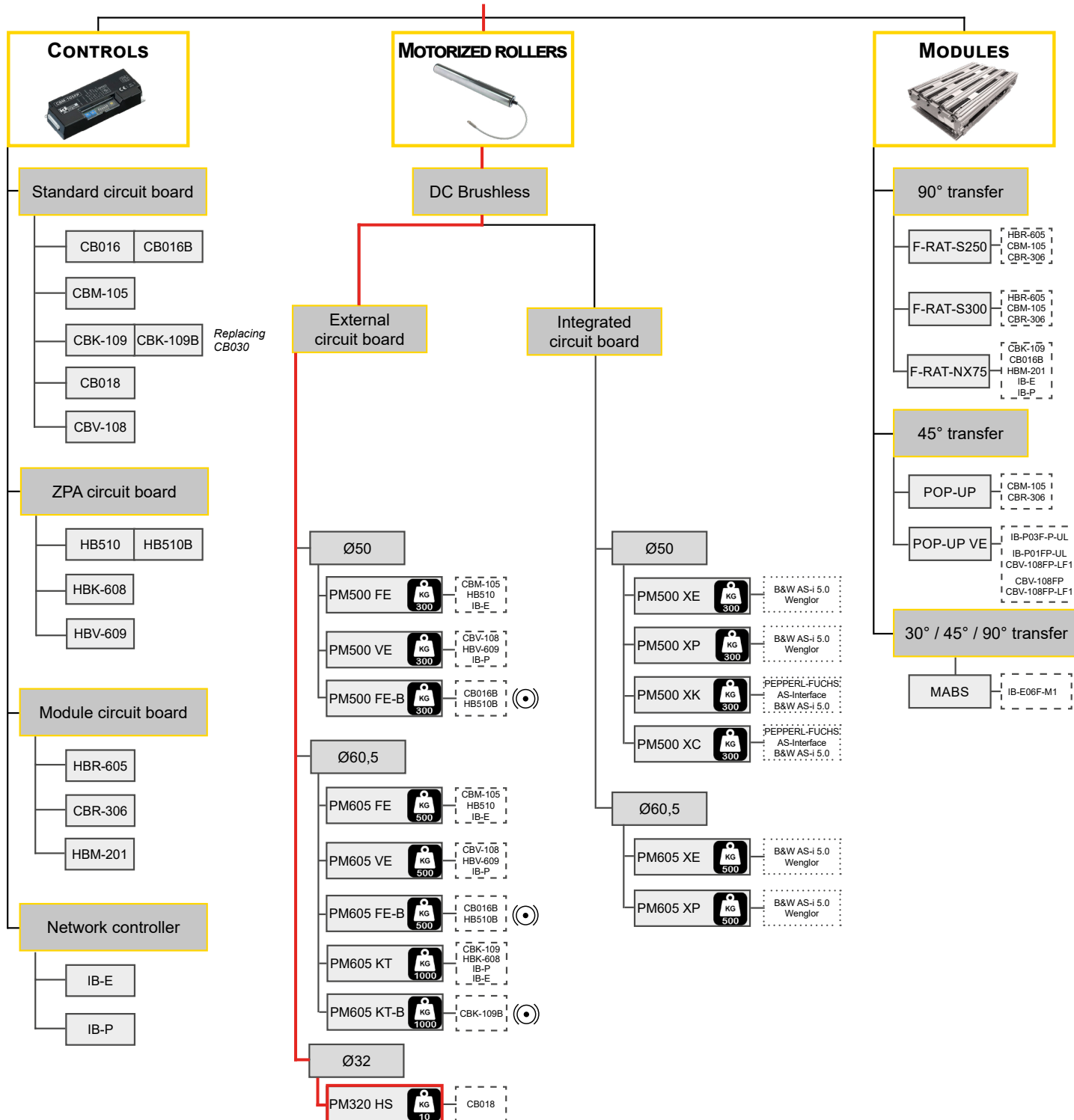
POWER MOLLER®

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1 - PRESENTATION OF THE POWER MOLLER® PRODUCT RANGE

POWER MOLLER® solutions



 Corresponding circuit board

 Compatible module / sensor

 Max load to be conveyed

 Mechanical brake version

2 - PRESENTATION OF THE SERIES

The motorized roller PM320HS with brushless technology 24VDC is used with external circuit board CB018S. It is designed for a belt conveyor for conveying very light loads, for weighing, feeding, evacuation of parts ..., in distribution, and for assembly lines. This circuit board is separated from the gear-motor in order to optimize the performance and durability of the roller. The assembly can be controlled by PLC.



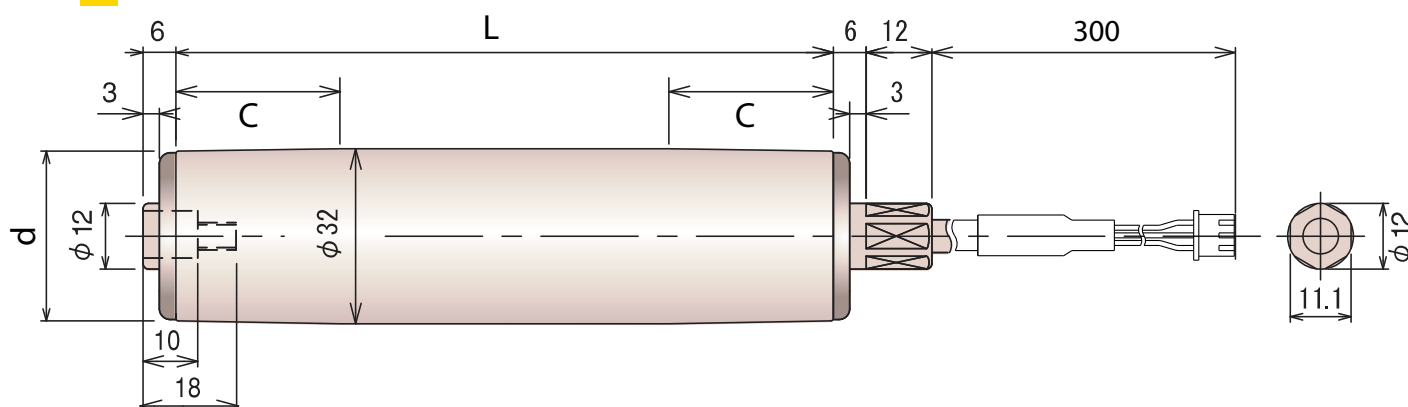
General characteristics

ELECTROMECHANICAL	Direct current and brushless		24 VDC (+ /- 10 %) – ripple ratio < 10 %
	Insulation class		E
	Operation at 40°C	Continuous	100%
		Intermittent	1800 starts / hour maxi Minimum duty cycle = 1 s ON / 1 s OFF ED = ON / (ON+OFF) ≤ 50 %
	Brake		Dynamic braking
	Protection index		IP65 (No high-pressure washing)
	Cable length and connector		300 mm with JST#XHP connector - 3 pins + extension cable
	Protection		Thermal protection (>75°C for circuit board) Protection against induced voltage
	Environnement		0 / +40 °C - no condensation - or corrosive or explosive atmosphere - Vibrations < 0,5 G
	Reduction ratio		1/12,80
	Material	Flange, shaft and fixing plate	Stainless steel 303L
		Tube	Thickness 2mm. Stainless steel 304L
	Speed (m/min)		8 fixed speeds from 6 to 30m / min
	Length		170, 220, 270, 320, 370, 420, 470, 520, 570 mm
	Static load max.		170 - 570 mm = 30 - 10 kg per roller
CONTROL	Circuit board functions		See the characteristics of CB018S2

 The PM320HS motorized roller is designed exclusively for indoor use.

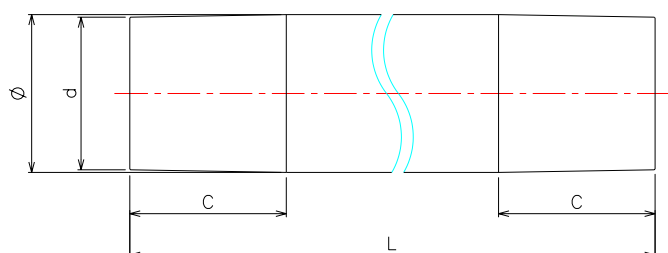
3 - DIMENSIONAL CHARACTERISTICS AND WEIGHT

Roller dimensions



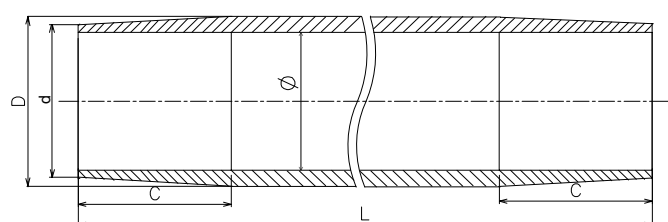
Crowned machining

Stainless steel crowned tube



L (mm)	C (mm)	Ø (mm)	d (mm)
170 - 570	30	32	31

Stainless steel cylindrical tube with natural rubber coating / crowned machined

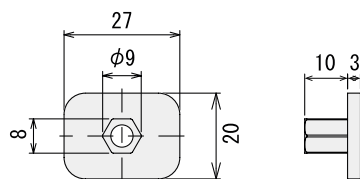


L (mm)	C (mm)	Ø (mm)	d (mm)	D (mm)
170 - 570	30	32	34	36

Weight / Static load / Axial force

Tube length	170	220	270	320	370	420	470	520	570
Weight (Kg)	0,7	0,8	0,9	1,0	1,1	1,2	1,3	1,4	1,5
Static load max (kg)	30	25	25	20	20	15	15	10	10
Axial force max (N)	196								

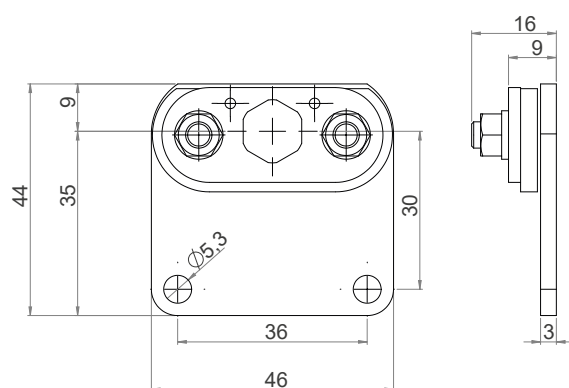
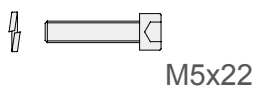
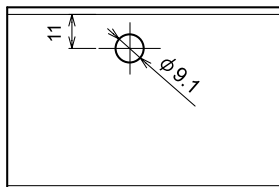
Fixing accessories



Included (flange side)

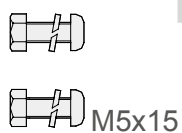
Reference	AM-32HS-M5
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Hole dimensions

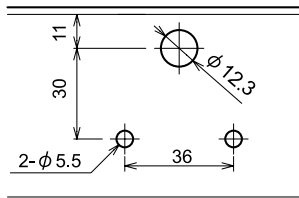


Included (motor shaft side)

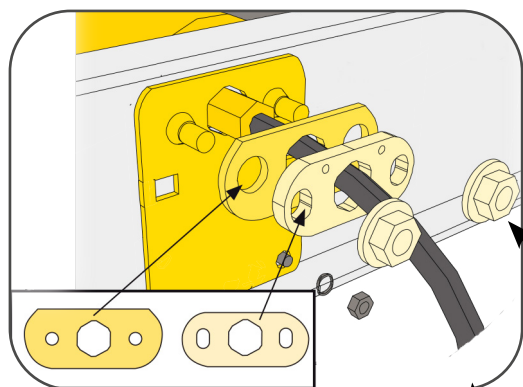
Reference	C-081
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Hole dimensions



Thickness of frame ≤3,2mm



M5x15 screw

3.5Nm

3.0Nm

①

②

③

④

⑤

Optional

a

a

Hole dimensions

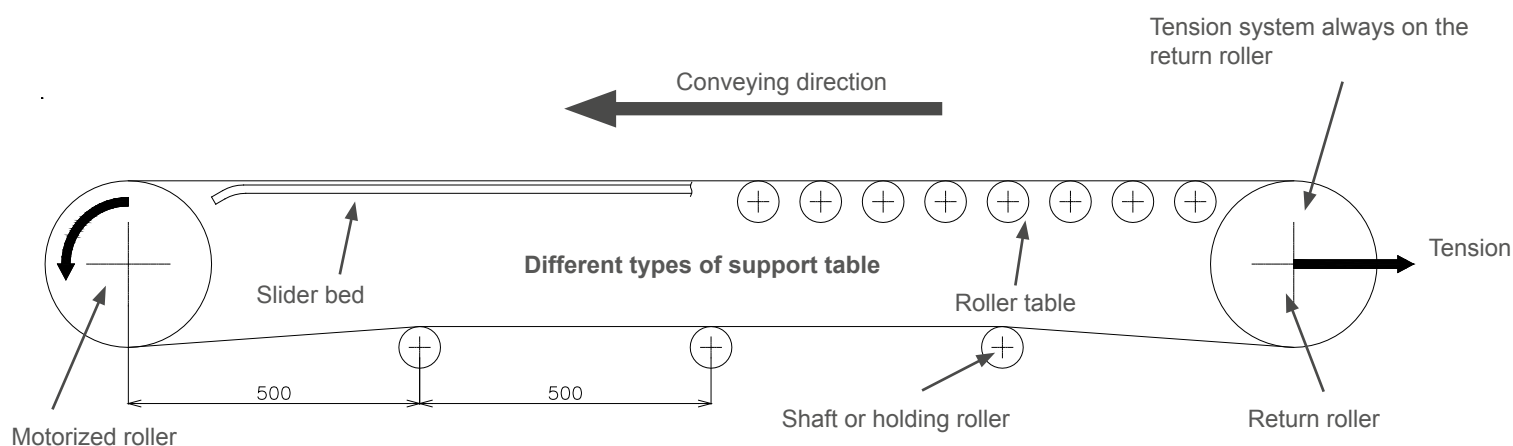
Obligatory fixing plate

Allen screw
Stainless steel M5x22

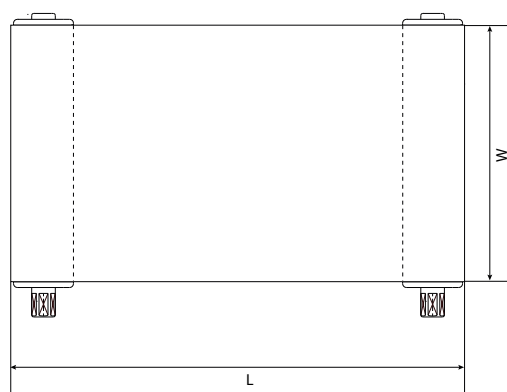
3.7Nm

5 - BELT CONVEYOR APPLICATION

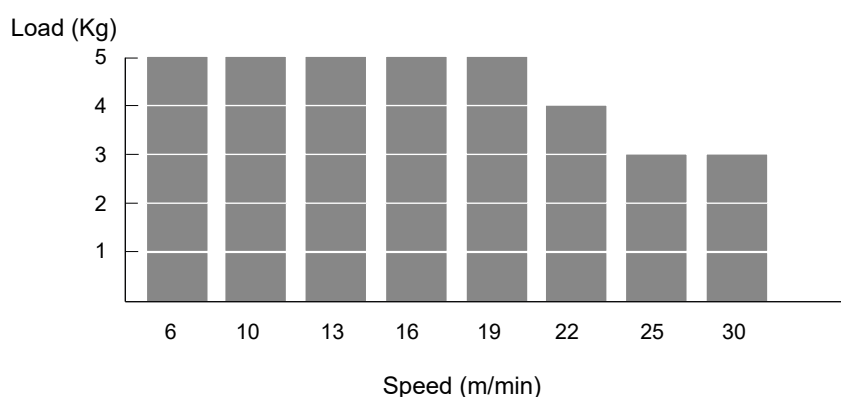
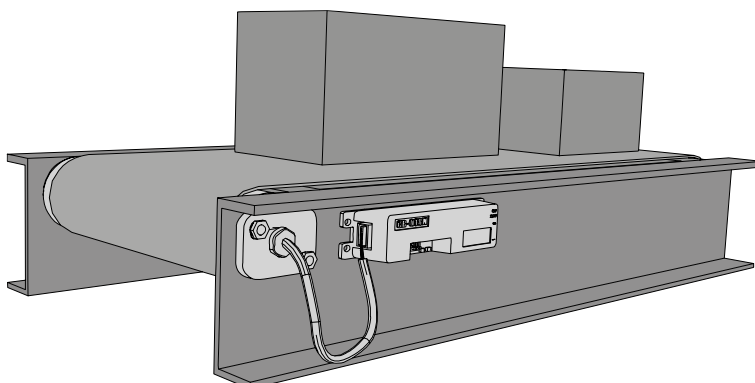
The PM320HS motorized roller allows to create a conveyor with very small dimensions to convey light loads.



- It is recommended to use a thin and elastic belt, and mount the motorized roller downstream of the conveying direction and the return roller upstream.
- The length (L) of the belt conveyor is recommended at $L \geq 2 \times W$ to achieve good belt stability.



Transfer capacity



Max conveyor's length : 1000mm

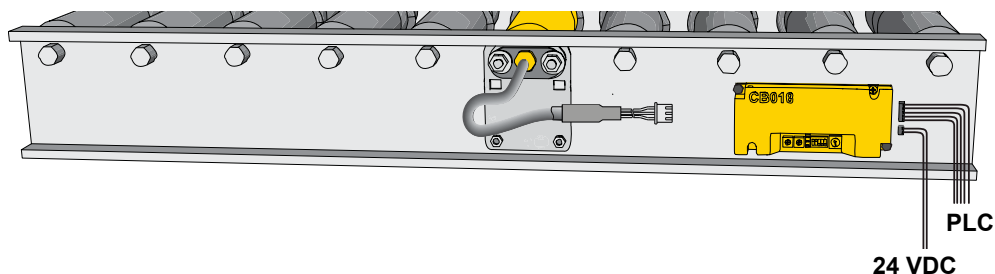
- Operation :
 - Intermittent : Minimum duty cycle = 2s ON / 2s OFF
ED = $ON/(ON+OFF) \leq 50\%$
900 starts/H max
 - Continuous : 100%
- Belt performance : 70%
- The maximum load to be conveyed according to the speed (see graph above) is given as an indication.

! These curves are given as a guide. Transfer capacity depends on the nature and quality of the transported load, the tension, the nature, the thickness, etc... of the belt, the quality of the bearings used for return roller, the nature of slider bed, the ambient temperature...

6 - WIRING AND PRODUCT IDENTIFICATION

Wiring

The PM320HS motorized roller is connected to the circuit board CB018.



! The circuit board can be incorporated into a sealed housing, depending on the environment.

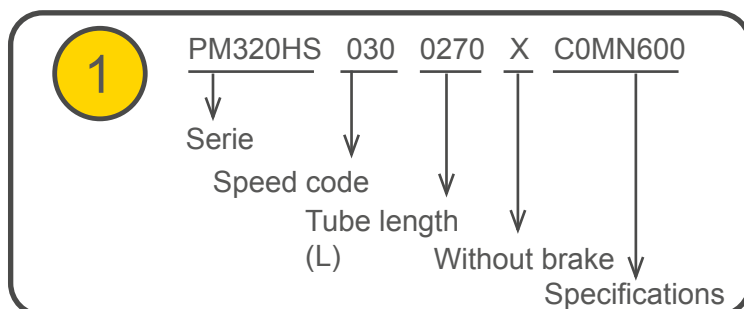
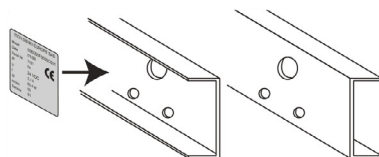
Label

Power Moller® rollers come with a square self-adhesive label that must be affixed to the conveyor, to facilitate any future maintenance. The following information are shown on the label :

ITOH DENKI EUROPE SAS	
Model	PM320HS030270XC0MN60
Date	10/14
Serial Nr	1151/010
IP	65
V	24 VDC
I	2A
W	48 W
m/min	30
Service	S1



- 1 Product reference number
- 2 Month and year of shipment
- 3 Serial number
- 4 Protection index
- 5 Power supply
- 6 Nominal intensity
- 7 Absorbed power
- 8 Speed
- 7 Operation



▶ ANNEX 1

INCORPORATION DECLARATION

in accordance with the EC Machinery Directive 2006/42/EC, Annex II B

The manufacturer :

ITOH DENKI CO., Ltd
1146-2 Asazuma-Cho, Kasai, Hyogo 679-0105 Japan

Distributed in Europe by :

ITOH DENKI Europe SAS
490 avenue des Jourdiés - PAE les Jourdiés - BP 323
74807 St Pierre en Faucigny Cedex - France

hereby declares that the product series :

PM320HS MOTORIZED ROLLER

is an incomplete machine as defined in the EC Machinery Directive and therefore does not fully meet the requirements of this Directive. Commissioning is prohibited until the whole machine/system in which it is incorporated is declared to be in compliance with the EC Machinery Directive

The health and safety requirements of Annex I have been applied. The special technical documents in accordance with Annex VII have been drawn up (and, if appropriate, submitted to the competent authorities).

Person authorized to compile the technical documentation :

ITOH DENKI CO., Ltd
Toshiyuki TACHIBANA
1146-2 Asazuma-Cho, Kasai, Hyogo 679-0105 Japan

ITOH DENKI EUROPE SAS
Masayuki SHIMODA
490 Avenue des Jourdiés, 74800 St Pierre en Faucigny - France

EC Directives applied :

- Machinery Directive 2006/42/EC
- European EMC Directive 2014/30/EC
- European RoHS Directive 2011/65/EU

ITOH DENKI EUROPE SAS, undertakes to forward, following a duly motivated request from the national authorities, the relevant information concerning the quasi-machine.

Saint Pierre en Faucigny, 19 July 2021
T. AKASHI, General Director





ITOHDENKI EUROPE S.A.S.

490 Av. des Jourdiés - P.A.E. les Jourdiés

74800 St Pierre en Faucigny - France

Phone : +33 (0)4 50 03 09 99 Fax : +33 (0)4 50 03 07 60



www.itoh-denki.com