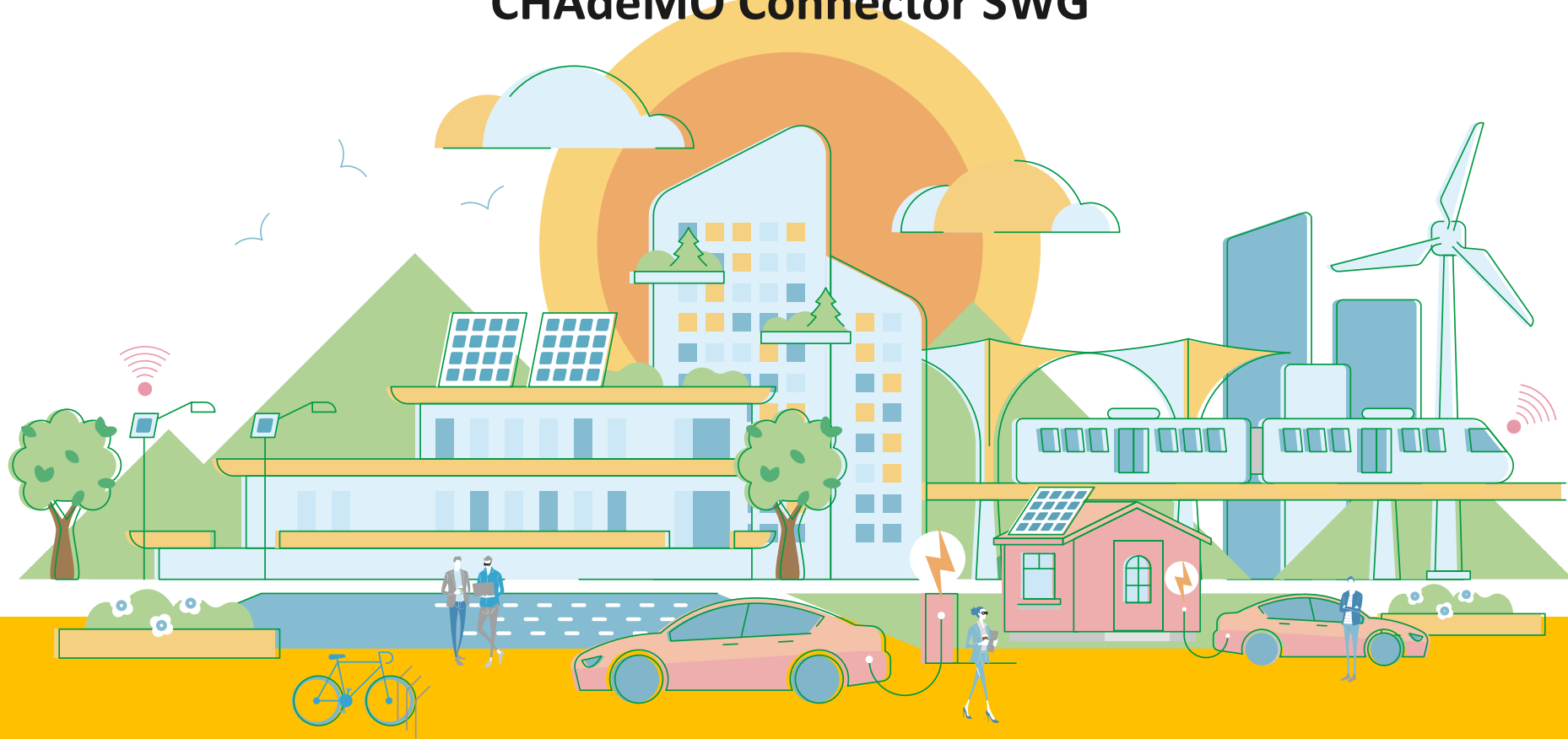


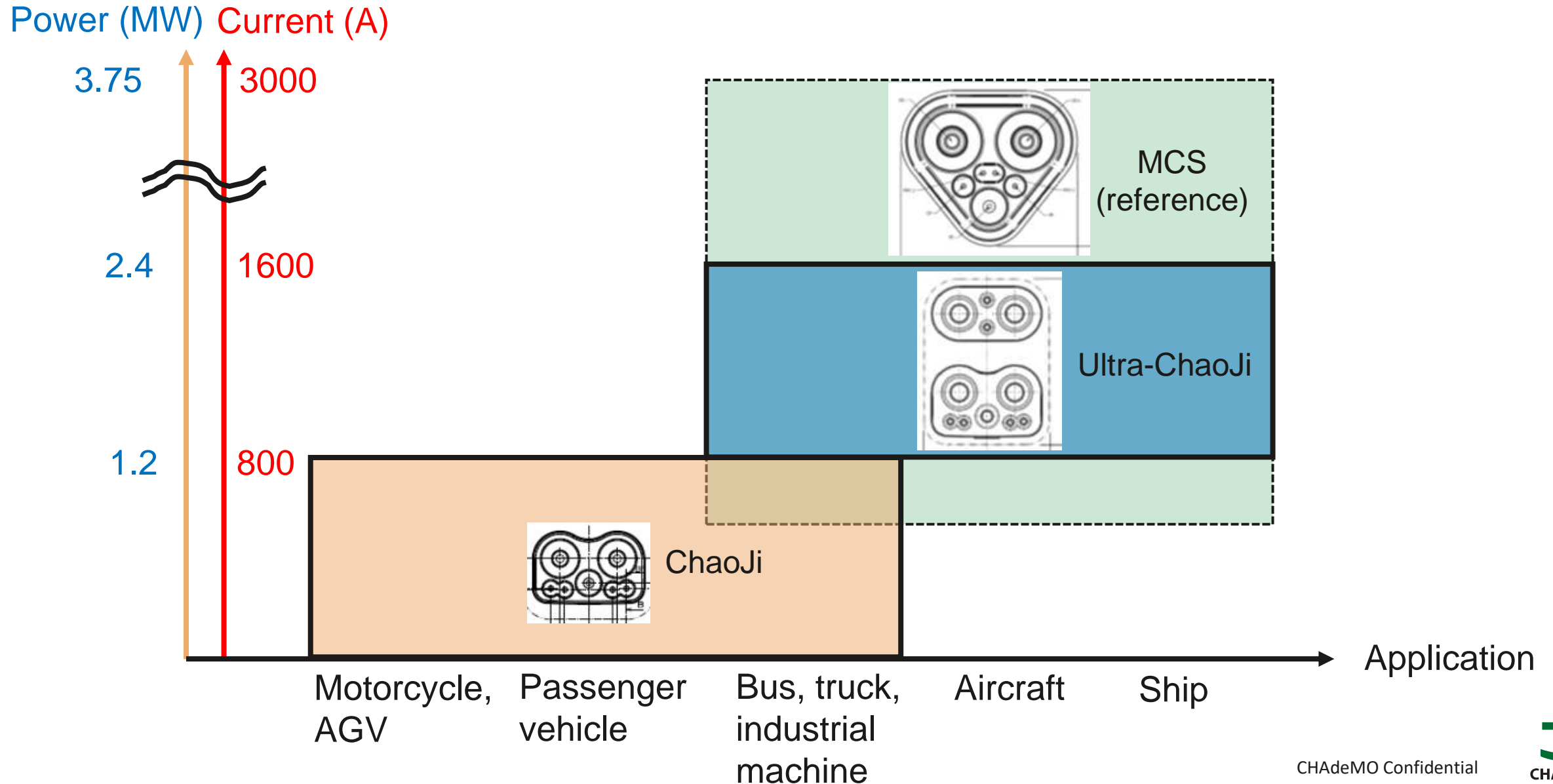
Ultra ChaoJi Coupler report

Utaka Kamishima, Takatoshi Kikuta

CHAdeMO Connector SWG



Eco-system of ChaoJi and Ultra-ChaoJi



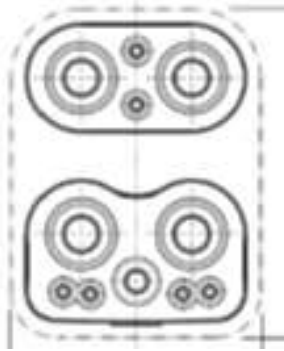
Comparison: Ultra-ChaoJi vs. CCS-2, MCS

 = Best

	Ultra-ChaoJi	CCS-2	MCS
Size of mating face (mm)	76.5 x 101 (JP proposal)	75 x 102	116.2 x 102.4
Max. current (A)	1,600	500	3,000
Comm. protocol	GB/T 27930-2, CHAdeMO 4.x, ISO 15118	ISO 15118	ISO 15118
Comm. physical layer	CAN, Ethernet, differential PLC	Single-end PLC	Differential PLC
Backward compatibility	ChaoJi, GB/T-2015, CHAdeMO, CCS-1 and -2	Not available	Not available
Simultaneous charging of two independent battery packs	Possible	Not possible	Not possible

IEC and ISO standardization (Ultra-ChaoJi)

Mating face
(Standard Specification Sheet)



IEC 63379

Japan (JARI) is fully supporting the IEC/ISO standardization of Ultra-ChaoJi

System specification
(same as MCS)



IEC 61851-23-3

ISO 5474-3

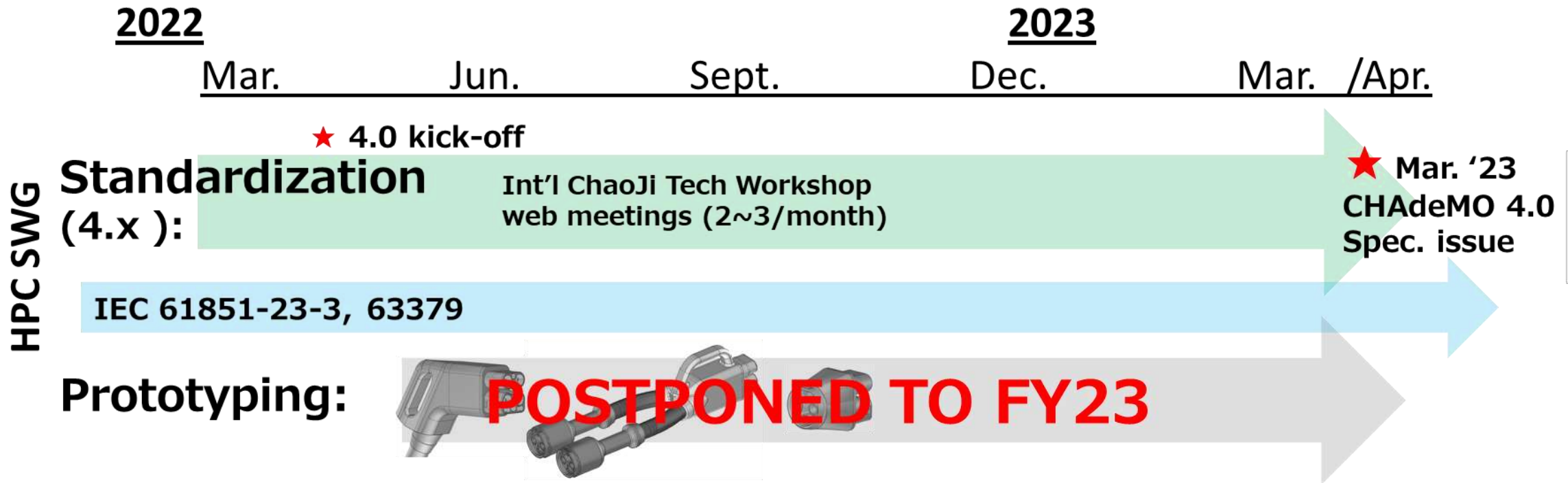
Communication protocol



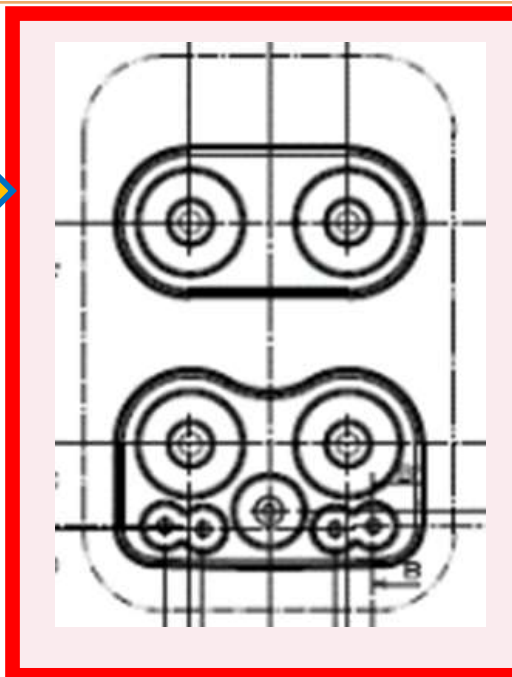
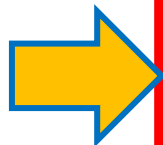
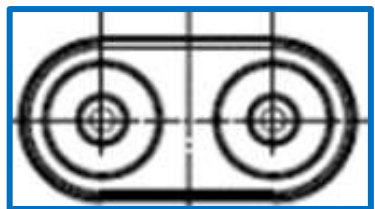
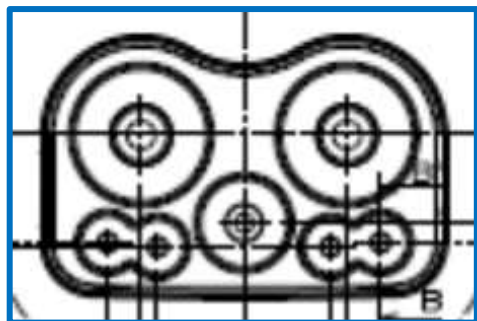
IEC 61851-24

ISO 15118-20,
ISO 15118-10(Ethernet)

CHAdeMO standardization (Ultra-ChaoJi)



Ultra ChaoJI configuration



Additional
DC Power
PIN part

Normal ChaoJI coupler
(DC Power PIN,
Earth PIN & Signal PIN
Combined)

Integrated, Double DC
Power PIN
⇒ Achieve 1200~1600A
current capacity
(600~800A × 2)

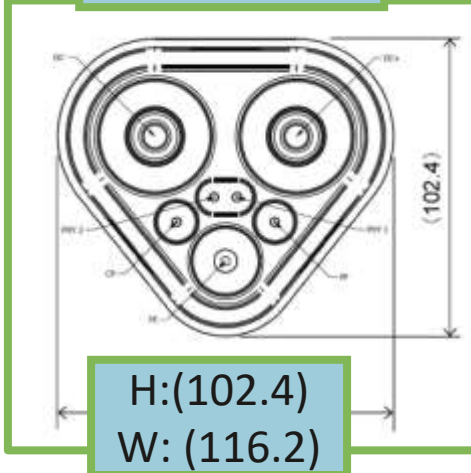
Communication;
: controlled by
Normal ChaoJI part

CCS2



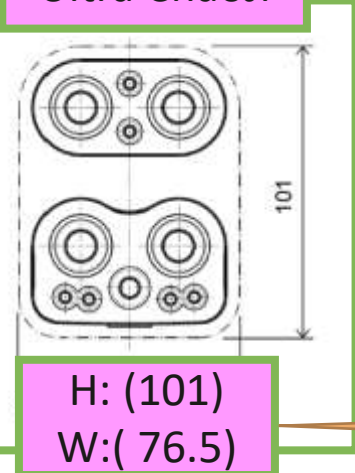
H:(102)
W: (74)

Char-IN MCS



H:(102.4)
W: (116.2)

Ultra ChaoJI

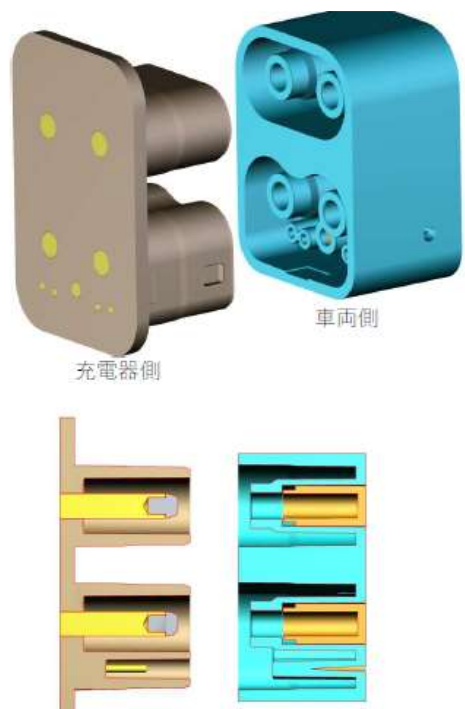


H: (101)
W:(76.5)

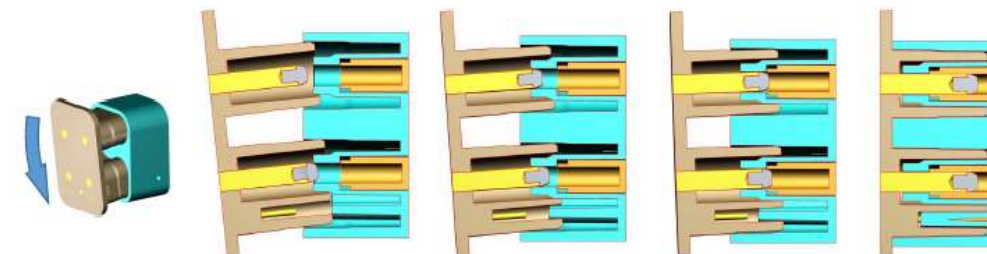
Ultra-ChaoJI (overall dimension):
Suitable space for wiring of "Power line"
should be **secured**, in connector body.
⇒ Required; smaller size than
"Char-IN MCS"

Dimension comparison (Inlet)

Ultra ChaoJi Mating confirmation

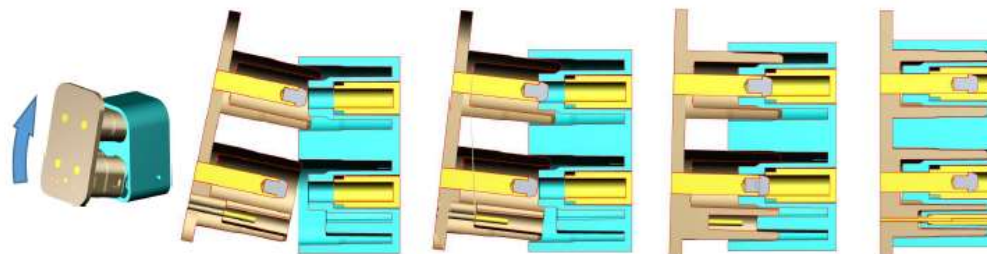


The **position interference** of "PIN and SLEEVE" for design configuration were investigated, at mating procedure.



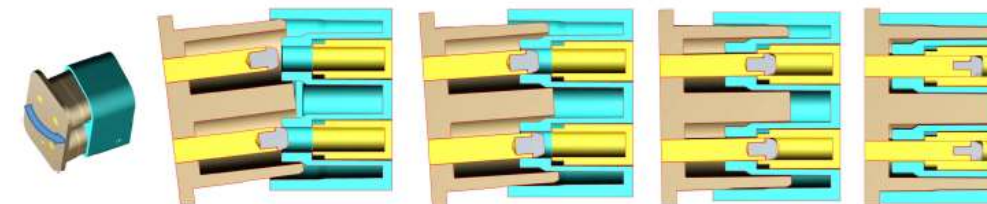
下方向へのこじり嵌合：干渉なし (MON形状)

Downward direction



上方向へのこじり嵌合：干渉なし (MON形状)

Upward direction



横方向へのこじり嵌合：干渉なし (MON形状)

Horizontal
direction

No position interference of "PIN and SLEEVE" were observed in **any** kind of **directions** of mating.

Thank you for your attention

