SUBARASHI MODELS

Smart Coupler®
Installation and Operation Manual

For ESU Decoder

CONTENTS: Smart Couplers® (The number of items ordered)

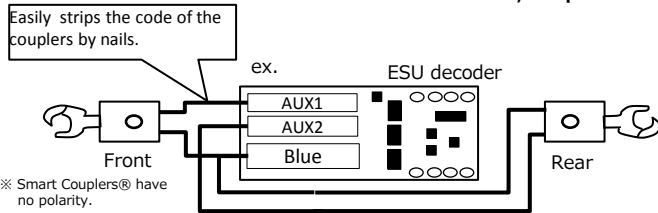### *Thank you for purchasing our Smart Coupler®.*

Before use, read this manual through for your safety and proper function of the product.

We have developed Smart Coupler® based on the Kadee® Scale Head Whisker® Coupler; so, Smart Coupler®'s realistic shape and function is the same as that of Kadee® couplers. In addition, Smart Coupler® has Anywhere Uncoupling function too.

Smart Coupler® is a product partly licensed from Kadee® Quality Products Company.

1. Check the contents of the package. If you find any defect of the coupler (i.e. an opened coupler pocket, a coupler head that does not swing rightward), contact us by email contact@subarashi-models.com.

2. Do's and Don'ts
   - Handle with care: Smart Couplers® are a precision product!
   - Do not open the Smart Coupler® pocket: opening the pocket will damage the product.
   - Do not twist the Smart Coupler® head: twisting the head will damage the pocket.
   - Connect wire with correct polarity.
   - Check functions of the Smart Couplers® using your DCC system before mounting the coupler to your model cars.
   - **In the case of a metal body, Be careful so that the side of the smart coupler does not touch the body (Coupler may cause a short circuit).**

3. How to connect

   Refer to the figure below to connect Smart Couplers® with **ESU* decoder** .

※ ESU loksound V4 , lokpilot V4

Easily strips the code of the couplers by nails.

ex.

ESU decoder

| AUX1 |
| AUX2 |
| Blue |

Front

※ Smart Couplers® have no polarity.

Rear

4. Test Methods

※You can uncouple well if you use the "Scale Head Coupler" for a car. · Check function by using next page CV value.
   - Turn on power of the DCC command station.
   - Set the direction to forward or reverse.
   - Be sure that either of the coupler head open by turning the function ON.
   - Be sure that the coupler head AUTOMATICALLY close at few seconds. (The coupler head automatically closes after function-ON to avoid heat-up.)
   - Turn the function OFF. Turn the function ON again to open the coupler head
   - Change the direction and turn the function ON. Then, the other coupler head open as well.
   - Turn the function OFF.

5. Mounting to Locomotive

After checking operation, mount the couplers to the locomotive.
   (1) According to the direction confirmed in 4 above , mount the coupler to the car body on the centerline of car with an attached screw.
   (2) Double check if there is no short circuit or wiring errors.

<Caution>
※ Please mount the coupler that operates when the direction of the locomotive forward and the function button is turned 'ON' on the opposite side (rear end) .

※ Please cut the trip pin because it cause the short circuit when it touch the rail.

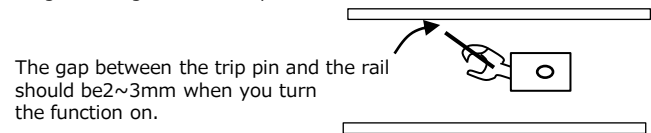Forward ← **Loco**

Coupler side that operates when forward

6. Adjustment of the coupler heads.

   The motions of couplers are already adjusted when shipped from the factory, but if you need further adjustments, please refer to next page
CV value   (**Brightness parameter**)
   Making it too big shorten the product life.

rail

The gap between the trip pin and the rail should be2~3mm when you turn the function on.

7. CV Value
This is CV value of the ESU decoder for Smart Couplers®.

CV	Description	Range	Recommend
CV246	Automatic decoupling Driving speed	0-255	4
CV247	Decoupling –Removing time	0-255	149
CV248	Decoupling – Pushing time	0-255	100

CV31=16 CV32=0 Function outputs(**Conventional coupler function effect**)

Description	Range	Recommend
Mode Select (Coupler)	–	28
Switching-on/off delay	0-255	3
Automatic Switch-off	0-255	7
Brightness	0-31	**3**

CAUTION : If this value is too big, the coupler burn out !

CV31=16 CV32=2 Function Mapping

Description	Value
CVA~CVH	Need two entries (Key Fn is ON) and (Forward) and (Key Fn is ON) and (backward)
CVK(Physical output)	4 =(AUX1) or 8 =(AUX2)
CVM (Logical function)	8

<Example>
You want F8 to be switched for uncoupling. And Smart Coupler are lined to AUX1 and AUX2 of ESU decoder (loksound V4, lokpilot V4) directly.

Automatic decoupling
```
CV 246    => 4
CV 247    => 149
CV 248    => 100
```

CV31 = 16, CV32=0 **Function Output**
```
CV 275   => 28    AUX1 for coupler
CV 276   => 3        Switching-on/off delay
CV 277   => 7        Automatic Switch-off
CV 278   => 3        Brightness
CV 283   => 28    AUX2 for coupler
CV 284   => 3
CV 285   => 7
CV 286   => 3        Brightness
```

CV31 = 16, CV32=2 **Function Mapping**
```
CVA 465  => 4      forward        CVA 481  => 8    backward
CVC 467  => 16    Key F8 on      CVC 483  => 16  Key F8 on
CVK 474  => 4      AUX1 on        CVK 490  => 8    AUX2 on
CVM 476  => 8      Logical (coupler) CVM 492  => 8    Logical(coupler)
```

8. Uncoupling Operation
・Stop the locomotive and cars at the desired location of uncoupling.
・Push the Uncoupling function ON.
・The locomotive automatically moves for uncoupling.
・Turn the function OFF . (Please do not forget it)

Please see the video at our website for detailed information.
https://www.smart-coupler.com/home-eng

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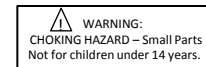All information provided here is subject to change without notice.

SUBARASHI MODELS
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⚠ WARNING:
CHOKING HAZARD – Small Parts
Not for children under 14 years.

Made in Japan
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