

# FIT FOR FLETS

# We keep your business rolling

Haldex develops reliable and innovative solutions that improves safety, vehicle dynamics and environmental sustainability in the commercial vehicle industry. We are one of the world-leading suppliers and are developing new technology for electrical and autonomous vehicles.



www.haldex.com

# SUMMARY

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Safe Parking	40
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# Actuators

Life Seal+: Durabil	lity is	king
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Notes

# **Disc Brakes**

- 2 in 1 Haldex solution
- ModulX & ModulT the service friendly disc b

# Suspension

- ILAS-E+: Technical information....
- COLAS+ single: Technical information
- COLAS+ dual: Technical information

# Features

- EB+ Soft Docking: Many safe returns.....
- TPMS 2.0: Under pressure....
- TPMS 2.0: Under pressure
- EB+ Info Center: Trailer diagnostic unit

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### Fit for fleets - Summary Haldex

# **CALENDAR** 2025 > 2027

January	February	March	April	May	June
Mon Tue Wed Thu Fri Sat Sun					
<b>1</b> 1 2 3 4 5	<b>5</b> 1 2	9 1 2	<b>14</b> 1 2 3 4 5 6	<b>18</b> 1 2 3 4	<b>22</b> 1
<b>2</b> 6 7 8 9 10 11 12	<b>6</b> 3 4 5 6 7 8 9	<b>10</b> 3 4 5 6 7 8 9	<b>15</b> 7 8 9 10 11 12 13	<b>19</b> 5 6 7 8 9 10 11	<b>23</b> 2 3 4 5 6 7 8
<b>3</b> 13 14 15 16 17 18 19	<b>7</b> 10 11 12 13 14 15 16	<b>11</b> 10 11 12 13 14 15 16	<b>16</b> 14 15 16 17 18 19 20	<b>20</b> 12 13 14 15 16 17 18	<b>24</b> 9 10 11 12 13 14 15
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<b>5</b> 27 28 29 30 31	9 24 25 26 27 28	<b>13</b> 24 25 26 27 28 29 30	<b>18</b> 28 29 30	<b>22</b> 26 27 28 29 30 31	<b>26</b> 23 24 25 26 27 28 29
		<b>14</b> 31			<b>27</b> 30
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<b>27</b> 1 2 3 4 5 6	<b>31</b> 1 2 3	<b>36</b> 1 2 3 4 5 6 7	<b>40</b> 1 2 3 4 5	<b>44</b> 1 2	<b>49</b> 1 2 3 4 5 6 7
<b>28</b> 7 8 9 10 11 12 13	<b>32</b> 4 5 6 7 8 9 10	<b>37</b> 8 9 10 11 12 13 14	<b>41</b> 6 7 8 9 10 11 12	<b>45</b> 3 4 5 6 7 8 9	<b>50</b> 8 9 10 11 12 13 14
<b>29</b> 14 15 16 17 18 19 20	<b>33</b> 11 12 13 14 15 16 17	<b>38</b> 15 16 17 18 19 20 21	<b>42</b> 13 14 15 16 17 18 19	<b>46</b> 10 11 12 13 14 15 16	<b>51</b> 15 16 17 18 19 20 21
<b>30</b> 21 22 23 24 25 26 27	<b>34</b> 18 19 20 21 22 23 24	<b>39</b> 22 23 24 25 26 27 28	<b>43</b> 20 21 22 23 24 25 26	<b>47</b> 17 18 19 20 21 22 23	<b>52</b> 22 23 24 25 26 27 28
<b>31</b> 28 29 30 31	<b>35</b> 25 26 27 28 29 30 31	<b>40</b> 29 30	<b>44</b> 27 28 29 30 31	<b>48</b> 24 25 26 27 28 29 30	<b>1</b> 29 30 31

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<b>3</b> 12 13 14 15 16 17 18	<b>7</b> 9 10 11 12 13 14 15	<b>11</b> 9 10 11 12 13 14 15	<b>16</b> 13 14 15 16 17 18 19	<b>20</b> 11 12 13 14 15 16 17	<b>25</b> 15 16 17 18 19 20 2
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<b>5</b> 26 27 28 29 30 31	<b>9</b> 23 24 25 26 27 28	<b>13</b> 23 24 25 26 27 28 29	<b>18</b> 27 28 29 30	<b>22</b> 25 26 27 28 29 30 31	<b>27</b> 29 30
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<b>28</b> 6 7 8 9 10 11 12	<b>32</b> 3 4 5 6 7 8 9	<b>37</b> 7 8 9 10 11 12 13	<b>41</b> 5 6 7 8 9 10 11	<b>45</b> 2 3 4 5 6 7 8	<b>50</b> 7 8 9 10 11 12 13
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<b>2</b> 11 12 13 14 15 16 17	<b>7</b> 15 16 17 18 19 20 21	<b>11</b> 15 16 17 18 19 20 21	<b>15</b> 12 13 14 15 16 17 18	<b>19</b> 10 11 12 13 14 15 16	<b>24</b> 14 15 16 17 18 19 20
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Mon         Tue         Wed         Thu         Fri         Sat         Sun           26         1         2         3         4           27         5         6         7         8         9         10         11           28         12         13         14         15         16         17         18	Mon         Tue         Wed         Thu         Fri         Sat         Sun           30         1         1         1         1         1         31         2         3         4         5         6         7         8           32         9         10         11         12         13         14         15	Mon         Tue         Wed         Thu         Fri         Sat         Sun           35         1         2         3         4         5           36         6         7         8         9         10         11         12           37         13         14         15         16         17         18         19	39         1         2         3           40         4         5         6         7         8         9         10           41         11         12         13         14         15         16         17	44       1       2       3       4       5       6       7         45       8       9       10       11       12       13       14         46       15       16       17       18       19       20       21	48     1     2     3     4       49     6     7     8     9     10     11     1       50     13     14     15     16     17     18     1

# In our experience, Haldex systems are the most reliable, and easy to use and maintain.

TSW & Assets Manager, DFDS

# EBS

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In our long-term relationship with Haldex we have experienced highly reliable products. People are easily accessible and we appreciate the direct support when needed.

> Sebastian Dreblow, L.I.T. AG

# EB+4.0 **NOT ONLY** A NEW GENERATION



# It's much more than that. More flexibility for your trailer

A new trailer brake control system that brings parking brake control into electronic management, offers customers a new modular approach to specification as well as customisable application software.

weight reduction



# EB+4.0 main features:

- Obsigned as multi-voltage system to cover application with 12 and 24 volt systems
- Serves as a global platform for different product families: EBS, ABS with roll-over-control and conventional ABS for trailers
- ⊘ Allows configurations up to 8S/4Mfor road trains and special applications
- O Application software is independent of the main brake control software
- Override solenoid suspends application of emergency brakes with driver warning and functional **CAN** communication
- Allows remote mobilization of the trailer when connected to telematics
- ⊘ Allows release of spring brake only under safe conditions (Safe Parking+)

on	Emergency Override	AUX Ports	Wheel speed sensors	Mobiliser
	No	3	2	No
	No	3	2	Pneum.
	Yes	4	2	No
	Yes	4	2	Pneum./ Electr.
n	Yes	6	4	No

Pneum./

Flectr

# **Benefits**

Part

Number

842 005 001

EBS

Basic

Basic

Basic

Basic

Premiur

Premium

Descripti

The **EB+40** can be equipped with a mobiliser function. This feature allows the release of the spring brakes only under certain pre-determined conditions and can be particularly useful in conjunction with telematics. The mobiliser also enables a so-called Safe Parking+ feature that allows spring brake release only when the system is fully charged and the yellow line pressurised.

The emergency override feature suspends emergency brake applications caused by red line break, with driver warning, so that the driver can safely stop the vehicle with full system function.





# **EB+4.0 EBS:** TECHNICAL INFORMATION



# **EB+ 4.0 EBS**

The **EB+40** EBS trailer brake platform utilises a modular design strategy, where several separate functional modules can be configured into a system with the desired functional scope.

For example, the **EB+40** can be equipped with a Safe Parking+ feature and Emergency Override feature.

The **EB+40** EBS is a 12 / 24V system with integrated roll-over control, intended for fitment to semi and centre axle trailers using air braking systems with air / mechanical suspension.

# **EB+4.0** EBS



# **Specifications**

The table gives you an overview of the three main EBS variants, with their options and features.in general, there are two main 2M systems of Basic or Premium configuration.

Compared to the Premium configuration, the Basic system supports a limited number of electrical auxiliary ports and only two wheel-speed inputs, but in general offers similar available options such as mobiliser or pressure protection valve.

There are two Basic versions of the EB+ 4.0. One 'with' and one 'without' the emergency override function. Apart from the override, the Basic without override does not have AUX 0.

There is a 1M EBS Slave that can be used with the Premium version to create 3M or 4M system layouts.

# **Benefits**

- **Easy, logical vehicle installation**
- Multi-voltage operation
- Flexibility, with up to 6 input / output channels, 2 dedicated analogue channels and 4 dedicated digital inputs
- Connect multiple CAN devices, e.g. TPMS, EB+ Info Centre and telematics...

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# **Design and Function**

### Premium with mobiliser assembly



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F	unction	Basic EBS (Without emergency overide)	Basic EBS	Premium EBS	
	Sensor (S) / Modulator (M)	2S / 2M	25 / 2M	2S/2M 4S/2M 4S/3M 8S/4M	
	Power	Pwr-A & Pwr-B	Pwr-A & Pwr-B	Pwr-A & Pwr-B	
tronics	AUX 0-5	1, 4 & 5	0, 1, 4 & 5	0-5	
	Wheel speed sensors	2	2	4	
	Haldex CAN	Y	Y	Y	
	Slave CAN	Ν	Ν	Y	
	Telematics CAN	Option	Option	Option	
	Pressure protection valve	Ν	Ν	Future option	
	Pneumatic AUX	Ν	Ν	Future option	
	Spring brake control	Y	Y	Y	
ing Brake	Spring pressure maintenance	Y	Y	Y	
	Emergency override	Ν	Y	Y	
	Latch / mobiliser	Option (Pneumatic only)	Option	Option	





# EB+4.0 BE SAFE AND SECURE



The product is so modular that we built some useful and standard kits, for your everyday needs.



EB+ 4.0 2S/2M

Basic Brake Kit with Safe Parking (without emergency override)				
950 800 923				
Part number	Qty	Description		
842 005 011	1	EB+ 4.0 2M basic, no emergency override, spring brake control valve with 4 ports, port 11 8 mm fitting		
844 001 120	1	EB+ 4.0 power A to 24V ISO7638 - 12m		
844 401 030	2	EB+ 4.0 sensor extension cable - 3m		
352 079 001	1	TEM+, pressure protection valve, Safe Parking		

Basic Brake kit (with emergency override) 950 800 924				
Part number	Qty	Description		
842 001 011	1	EB+ 4.0 2M basic, with emergency override, spring brake control valve with 4 ports, port 11 8 mm fitting		
844 001 120	1	EB+ 4.0 power A to 24V ISO7638-12m		
844 401 030	2	EB+ 4.0 sensor extension cable - 3m		
352 078 001	1	TEM+, PPV		

Basic Brake kit with Safe Parking (with emergency override) 950 800 925				
Part number	Qty	Description		
842 001 011	1	EB+ 4.0 2M basic, with emergency override, spring brake control valve with 4 ports, port 11 8 mm fitting		
844 001 120	1	EB+ 4.0 power A to 24V ISO7638 - 12m		
844 401 030	2	EB+ 4.0 sensor extension cable - 3m		
352 079 001	1	TEM+, pressure protection valve, Safe Parking		



Premium Brake kit (with Safe Parking)
950 800 927
Description

art number	Qty	Description
842 003 011	1	EB+ 4.0 2M premium, with emergency override, spring brake control valve with 4 ports, port 11 8 mm fitting
844 001 120	1	EB+ 4.0 power A to 24V ISO7638-12m
844 401 030	2	EB+ 4.0 sensor extension cable - 3m
844 401 060	2	EB+ 4.0 sensor extension cable - 6m
352 079 001	1	TEM+, pressure protection valve, Safe Parking

## EB+ 4.0 6S/3M







Haldex

Brake kit (with Safe Parking)					
950 800 928					
Part number	Qty	Description			
842 003 011	1	EB+ 4.0 2M Premium, with emergency over- ride, spring brake control valve with 4 ports, port 11 8 mm fitting			
841 001 001	1	EB+ 4.0 1M slave 3 port			
844 021 120	1	EB+ 4.0 power A to 24V ISO7638-12m- plug			
844 501 100	1	EB+ 4.0 link cable-10m			
844 401 030	4	EB+ 4.0 sensor extension cable - 3m			
844 401 020	2	EB+ 4.0 sensor extension cable - 2m			
352 083 001	1	TEM+ , Full trailer valve, Safe Parking			

Fit for fleets - EBS



# **EB+4.0** AFTERMARKET **PART NUMBERS**

The following EB+ 4.0 Aftermarket (AM) part numbers are now available.

EB+ 4.0 OE part no.	Description OE part	EB+ 4.0 AM part no.	Description AM part
842 005 001	2M Basic, w/o OR, 6 Port SBCV	942 015 001	2M Basic+, w/o OR, 6 Port SBCV, AM
842 005 011	2M Basic, w/o OR, 4 Port SBCV		
842 015 001	2M Basic+, w/o OR, 6 Port SBCV		
842 015 011	2M Basic+, w/o OR, 4 Port SBCV		
842 001 001	2M Basic, 6 Port SBCV	942 011 001	2M Basic+, 6 Port SBCV, AM
842 001 011	2M Basic, 4 Port SBCV		
842 011 001	2M Basic+, 6 Port SBCV		
842 003 001	2M Premium, 6 Port SBCV	942 013 001	2M Premium+, 6 Port SBCV, AM
842 003 011	2M Premium, 4 Port SBCV		
842 013 001	2M Premium+, 6 Port SBCV		
842 013 011	2M Premium+, 4 Port SBCV		
842 011 121	2M Basic+, 4 Port SBCV, 4 Port PPV	942 011 121	2M Basic+, 4 Port SBCV, 4 Port PPV, AM
842 013 131	2M Premium+, 6 Port SBCV, 4 Port PPV	942 013 131	2M Premium+, 6 Port SBCV, 4 Port PPV, AM
842 011 811	2M Basic+, 4 Port SBCV, 16mm P1	942 011 811	2M Basic+, 4 Port SBCV, 16mm P1, AM
842 011 401	2M Basic+, 6 Port SBCV, 18mm P1	942 011 401	2M Basic+, 6 Port SBCV, 18mm P1, AM
KEYS:			
	• <b>P1:</b> Port 1 • <b>OE:</b> Original Equip • <b>AM:</b> Aftermarket Protection Valve	oment	

# NOTES







# **EB+4.0 3M FULL TRAILER TEM+ FTV** BRAKING SCHEMATIC



T 🚺 🕈 Full Trailer V









# **EB+4.0 2M WITH TEM+** BRAKING SCHEMATIC













# **EB+4.0** DOUBLE CIRCUITS, **COLAS+** AND **ILAS-E+**









# EB+ 4.0 Main Cables

# **MASTER VALVE** DESCRIPTION

Variant	Part number	S-CAN	T-CAN	Wheel speed sensor connection	Aux Out	Aux In
Basic	842 005 xxx	No	No	2	Aux1	
Basic +	842 015 xxx	No	Yes	2	Auxi	
Basic override	842 001 xxx	No	No	2	Aux0	A x4
Basic override +	842 011 xxx	No	Yes	2	Aux1	Aux5 Super Aux
Premium	842 003 xxx	Yes	No	4	Aux0 Aux1	А, В, С
Premium +	842 013 xxx	Yes	Yes	4	Aux2 Aux3	

Each Aux output connector can control up to two output functions, for example COLAS RtR and Speed lock on Aux1. Use Aux splitter cable to control 2 valves from 1 Aux connector (ie. Premium EB+ 4.0 has 8 possible Aux outputs).





# **TRAILER APPLICATION GUIDE**

Further information are available on Trailer Application Guide :

- Up-to-date list of variants
- > Drawings and advanced description
- > ADR reports
- > Diagnostic help

ISO 7638 to <b>Power-A</b> - Semi-trailer	24N open end to <b>Power-B</b>
Part number Length (m)	Part number Length (m)
844 001 060 6	844 201 040 4
844 001 090 9	844 201 060 6
844 001 120 12	844 201 090 9
844 001 140 14	844 201 120 12
844 001 160 16	844 201 160 16
844 001 180 18	
	Super Aux + 24N open end to
ISO 7638 to <b>Power-A</b> - Semi-trailer Kit	Part number Length (m)
Part number Length (m)	844 221 060 6
844 003 120 12	844 221 090 9
	844 221 120 12
ISO 7638 to <b>Power-A</b> - Trailer	
Part number Length (m)	24N DIN to <b>Power-B</b>
844 021 090 9	Part number Length (m)
844 021 120 12	844 211 020 2
844 021 150 15	844 211 040 4
844 021 180 18	
ISO 7638 to <b>Power-A</b> - Open-end	Super AUX + 24N to Power-
Part number Length (m)	Part number Length (m)
844 101 015 1.5	844 231 010 1
844 101 050 5	844 231 060 6
844 101 130 13	
844 101 140 14	DIN to Aux
844 101 160 16	Part number Length (m)
	844 321 010 1
DIN to <b>Power-A</b>	844 321 020 2
Part number Length (m)	844 321 030 3
844 111 015 1.5	844 321 050 5
844 111 120 12	844 321 060 6
844 111 130 13	844 321 070 7
	844 321 100 10
CAN to CAN	844 321 180 18
Part number Length (m)	
844 501 030 3	Open end to <b>Aux</b>
844 501 050 5	Part number Length (m)
	844 301 010 1
844 501 100 10	844 301 020 2
844 501 120 12 844 501 140 14	844 301 040 4
844 501 140 14	844 301 070 7
DIN to <b>CAN</b> (Telematic)	844 301 100 10
Part number Length (m)	844 301 120 12 844 301 180 18
844 521 010 1	044 301 100 18
844 521 120 12	Aux to Aux
	Part number Length (m)
Open end to <b>CAN</b>	844 331 010 1
Part number Length (m)	844 331 040 4
844 561 010 1	
844 561 065 6,5	Aux splitter MFF
	Part number Length (m)
CAN splitter MFF	844 342 001 0.5
Part number Length (m)	
844 542 001 0,5	Aux splitter FFF
CAN splitter FFF	Part number Length (m)
Part number Length (m)	844 341 001 0.5
844 541 001 0,5	
	Pressure sensor/switch to A
DIAGN to <b>CAN</b> (EB+ Info Centre)	Part number Length (m)
Part number Length (m)	844 311 007 0,75
844 551 005 0.5	844 311 020 2
844 551 010 1	844 311 030 3
844 551 025 2.5	844 311 050 5
844 551 065 6.5	844 311 080 8
844 551 080 8	844 311 100 10
844 551 140 14	844 311 260 26

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r-B	Wheel <b>Sensor</b> exte	nsion
	Part number Length (m)	
	844 401 020 2	
the second se	844 401 030 3	
12	844 401 040 4	
	844 401 060 6	100
	844 401 080 8	
	844 401 100 10	
end to <b>Power-B</b>	844 401 120 12	
	844 401 140 14	
the second se		
12	Diagnostic ISO 76	38 splitter
	Part number Length (m)	50 Splitter
	815 018 001 0.45	and the second
	813 018 001 0.43	1 6
		1000 C
	Diagnostic PC inte	erface to <b>SOV</b>
	Part number Length (m)	100000
	814 011 001 6.5	
wer-B		
	Die er ertier DO int	
	Diagnostic PC inte	enace to CAN
	Part number Length (m)	
	844 511 065 6,5	
	844 511 065 15	
	844 511 200 20	
	<b>Diagnostic DIAG</b>	++ PC interface
	Part number	
	950 800 909	120
	Diagnostic FLEE	<b>r++</b> PC interface
	Part number	
	950 800 910	e damai

to Aux

# EB+4.0: MAIN CABLES

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# EB+ 4.0 Features



More information

### FIND THE RIGHT EBS VARIANT

To select the right EBS 4.0 reference, match the number of features required for your application with the appropriate configuration to ensure optimum performance and compatibility. EBS variants can cover from 1 to 8 auxiliary outputs. Find the most suitable part number for your application! e.g: 842011011 can manage up to 4 auxiliaries.

## SUSPENSION CONTROL

### **DRIVER ASSISTANCE**

### TPMSzo

The TPMS 2.0 system continuously measures the air pressure and temperature in the trailer tyres. Our new TPMS is compatible with EB+ 4.0 (and other) and is compliant with UN-R141.

Example for 3 axles single wheels kit : (1x 940 000 629) + (6x 950 800 941)

For twin wheels or configuration with more than 3 axles, see Trailer Application Guide.				
	Part number	Description	Comment	
	815 058 001	RCU	TPMS 2.0 Receiver (incl. Antenna)	
	844 534 012	Cable Terminated	If only TPMS 2.0 is connected to EBS	
	844 536 012	Cable Unterminated	If TPMS 2.0 and other CAN devices are connected	
	844 537 xxx	Cable 2 <sup>nd</sup> RCU	To connect 2nd RCU	
	844 542 001	CAN splitter MFF	For 2 RCU connection	
	950 800 941	WUS kit (belt)	Contains 1 sensor plus 1 belt. For wheel size 17.5" to 24.5"	
	042 801 909	Valve mounted WUS	For wheel size 12" to 16"	
	815 072 005	Adaptor 7pin DIN plug	To connect TPMS 2.0 on WABCO / KNORR compatible EBS	
	815 073 005	Adaptor 7pin DIN socket	To connect TPMS 2.0 on KNORR compatible EBS	
	940 000 629	kit RCU + cable	Contains 815 058 001 + 844 534 012	



### EB+ Info Centre

The EB+ Info Centre installed on the trailer provides easy access to diagnostic data, odometer and other information, in multilanguages. Together with TPMS 2.0 it's the perfect match.

Part number Description 815 041 001 Standard 815 046 001 ADR compliant (without battery) Cable to use: DIAGN to CAN 844 551 xxx.

### **EB**+ Soft Docking

EB+ Soft Docking helps to prevent damage: with visual and audio warnings, the brakes are automatically applied before hitting an obstacle.

Part number Description Application 940 000 603 2 sensors kit Standard 940 000 604 3 sensors kit Tank, Tipper Other length, variants and connectors available, see Trailer Application Guide.

Lining Wear System (LWS)

The Haldex Lining Wear System (LWS) provides lining wear indication when the pad reaches the minimum



lining thickness. For 3 axles applications.

Part number Cable length (mm)

844 361 001 2.m / 2x2.5m / 2x3.5m / 2x 4.5m Pad Wear Indicators part numbers, see Trailer Application Guide

### **EB+** CAN Hub

The EB+ CAN Hub is an ISO11992 repeater / router for 12/24V applications. For long vehicles, Dollies and

Towing trailers.	
Part number	Description
815 057 001	ECU
814 003 xxx	ISO 7638 to Power A - Semi-trailer
814 004 xxx	ISO 7638 to Power A - Trailer
844 121 xxx	Power A to Power A
815 022 001	Pressure sensor (option)
844 311 xxx	Pressure sensor to Aux (option)



### //A*5-E*+

<b>ILAS-E+</b> is a single circuit lift axle valve for air suspension systems controlled by EB+.				
Part number	Pneumatic Ports	Voltage	Cable to use	
352 080 001	7 x Push-in 8x1	24	DIN to Aux 844 321 xxx	
352 080 011	6 x Push-in 8x1	24	DIN to Aux 844 321 xxx	
352 061 121	4 x M16	12	DIN to Aux 844 321 xxx	

### COIA5+

The well known COLAS+ raise / lower valve for trailers which has an integrated high range of functions: Dead man's, Roll-on Roll-off, Reset to Ride height. Available in Single or Dual circuit.

Part number	Single	Dual	RtR	Dead man	RoRo	Voltage
338 061 201	۲	8	۲	۲	0	24
388 062 201	0	0	0	0	🔇 + raising	24
338 071 101	۲	۲	۲	0	۲	24
338 071 131	0	0	0	0	0	24
338 071 161	۲	0	0	0	0	12
Cable to use: DIN to Aux 844 321 xxx.						

# PARK CONTROL

# TEM+

TEM+ has been designed to match perfectly the EB+ 4.0 platform. Safety uncoupling and coupling of a trailer is enhanced by the unique Safe Parking function. Option such as Pressure Protection Valve and Full Trailer Valve can be selected.

Part number	PPV	Safe Parking	FTV
352 076 002	8	8	8
352 077 002	8	0	8
352 078 002	0	8	8
352 079 002	0	0	8
352 082 002	0	8	0
352 083 002	0	0	<b>S</b>
Aluminium plate	included for all		

### **Electronic Height Sensor (EHS)**

Electronic Height Sensor (EHS) for mechanical suspension vehicles.

Part number	Description		
815 030 001	Sensor		
003 575 709	Lever with linkage		
612 025 001	Linkage on axle		
Cable to use: DIN to Aux 844 321 xxx.			

### **Switch Box**

Switch Box will ease the activation of a Traction Assist, a forced steer axle, a safety function, Soft Release function and many others.

Part number Description 844 351 070 Mounted in front of the chassis 844 352 070 Mounted behind the chassis













# EB+GEN3 3M TECHNICAL INFORMATION



# **Benefits**

- Easy, logical vehicle installation.
- Multi-voltage operation.
- Flexibility, with up to 5 input/output channels, 2 dedicated analogue channels and
- 3 dedicated digital inputs.
- Content Service Content Ser Master and Slave to optimise brake efficiency and wear.
- Connect multiple CAN devices, e.g. TPMS, Info Centre or telematics.

# EB+ Gen3 3M

**EB+GEN3** 3M is a 12/24V EBS with integrated roll-over control, intended for fitment to full, semi and centre axle trailers using full air braking systems with air/mechanical suspension. A top of the range configuration delivers EBS braking with integrated ABS, electronic load-sensing, multiple CAN, 3 modulator configuration, a range of other inputs/outputs to control other functions and now with stop lamp power backup.

Independent EBS for full, semi and centre axle trailers. The full EB+GEN3 3M system consisting of a EB+GEN3 2M Master and a 1M Slave (3 modulators in total), 4 sensors, more auxiliary connections than standard, integrated stability, maximum flexibility.

# **ЕВ+**GEN3 ЗМ





# **Specifications**

- ⊘ Integrated quick release valve
- Integrated anti-compound valve
- Service brake test points
- Reservoir connections: 2 x Master, 1 x Slave
- ECU operates 8-32V
- External connections via up to 14 moulded plugs
- EMC/RFI approved
- ⊘ Valve integrated with electronic load sensing and roll-over control
- O Delivery and suspension M16 ports
- Reservoir M22 ports

# **Part Numbers**

- Gen3 Master assembly 823 034 001
- Gen3 3M AM 950823IC3M
- Gen3 Slave assembly 810 023 001
- ✓ Gen3 Master & Slave Kit 823 028 001
- Gen3 Master-Slave link cable (yellow connectors):

2 m	814 041 011
5 m	814 041 021
8 m	814 041 051
10 m	814 041 041
12 m	814 041 001
14 m	814 041 031

# **Design and Function**

Installation drawing 823 000 000 2 & 810 023 000 2

### **Gen3 Master Assembly**



**Gen3 Slave Assembly** 





# **EB+GENS 2M WITH TEM** BRAKING SCHEMATIC



The EB+ Gen3 is a perfect fit for us: It's the picture of userfriendliness and has very good diagnostic tools. And Haldex offers excellent technical support.

> Robert Hewett, Stagetruck

# EB+GEN3 2M TECHNICAL **INFORMATION**



# **Benefits**

- **Easy, logical vehicle** installation.
- Multi-voltage operation.
- Integrated stability control.
- Multiple auxiliary connections allow several devices to be fitted.
- Functions and capabilities are upgradeable by software for longer operational life.
- Connect multiple CAN devices, e.g. TPMS, Info Centre or telematics.

# EB+ Gen3 2M

**EB+GEN3** 2M is a 12/24V EBS with integrated roll-over control, intended for fitment to semi and centre axle trailers using full air braking systems with air/mechanical suspension.

Independent EBS for semi and centre axle trailers. EB+GEN3 2M, 2 modulators, 4 sensors, multiple auxiliary connections, integrated stability, maximum flexibility.

# *ЕВ+GEN3* 2М





# **Specifications**

- ⊘ Integrated quick release valve
- ⊘ Integrated anti-compound valve
- Service brake test points
- **O** Dual Reservoir connections
- ECU operates 8-32V
- **Plastic enclosure**
- External connections via up to 13 moulded plugs
- EMC/RFI approved
- **⊘** Valve integrated with electronic load sensing and roll-over control
- O Delivery and suspension M16 ports
- Reservoir M22 ports

# **Part Numbers**

Gen3 2M Gen3 2M AM

# **Design and Function**

Installation drawing 823 000 000 2









# EB+GEN1 TO GEN3 **CONVERSION KIT**



# **Electronic Braking System**

The Haldex EB+ Gen1 ECU is no longer available and must now be replaced by an EB+ Gen3.

Follow the step-by-step guide outlined below. This will help ensure that all parts are suitable for the application prior to the service centre or workshop carrying out the work. All EB+ Gen1 modulator valves are unaffected and continue to be available separately.

# **STEP 1**

⊘ Replace EB+ Gen1 with EB+ Gen3 part number 950823008

# **STEP 2**

Select appropriate bracket kit required for mounting EB+ Gen3 unit. There are two choices: a side mounted bracket or top mounted bracket



# **STEP 3**

Select the correct size pipe fitting kit based on the spring brake pipe diameter currently on the trailer

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Side mounted bracket kit Part no. 852993006E

Top mounted bracket kit Part no. 852993006H



**Pipe fitting** kit 8mm Part no. SB8 MM



**Pipe fitting** kit 10 mm Part no. **SB10 MM** 



Pipe fitting kit 12mm Part no. **SB12 MM** 





# EB+GEN3 **ORV REPAIR KIT OUICK SERVICE GUIDE**









# **EB+** CAN HUB TECHNICAL INFORMATION



# A compact standalone unit used to extend the ISO 11992 CAN Bus.

The **EB+**CAN Hub is an ISO 11992 repeater / router for 12 / 24V EB+ EBS. It has three EB+ Power A (ISO 7638) connectors, sharing power and lamp connections but with each having a separate ISO 11992 node. There is also one input to connect an external pressure sensor for a commercial vehicle not equipped with ISO 11992 (i.e. Truck with ABS system only).

# EB+CAN Hub



# **Software**

- ✓ The B+CAN Hub will only work with EB+ Gen3 that has E741 software level and onwards installed.
- C The **E**+CAN Hub is configured using DIAG+ V6.20 onwards software. The DIAG+ software can be downloaded from the **Trailer Application Guide section** of the Haldex website. The DIAG+ Operators Guide (006 300 019) can be downloaded from the Findex section of the Haldex website.

# **Part Numbers**

⊘ 🖅 + CAN Hub	815 057 001
OPressure switch	815 022 001
Cables:	
⊘ ISO 7638 Socket	814 003 1xx
⊘ ISO 7638 Plug	814 004 1xx
⊘ Pwr A to Pwr A	814 042 0xx
Pressure switch	814 001 5xx

Refer to the **E**+CAN Hub installation guide 006 300 049 for a full list of part numbers. This guide can be downloaded from the Findex section of the Haldex website www.haldex.com

# **Design and Function**

Installation: refer to customer drawing 815 057 000 2

### Repeater mode

The **EB+CAN Hub** in repeater mode is used to extend the ISO 11992 CAN Bus which is limited to 40 meters, where 22 meters is allocated for the truck (towing vehicle + Suzie connection) and a maximum of 18 meters for the trailer (towed vehicle).

EB+ CAN Hub usage on an overlength trailer example:



### Router mode

The **EB**+CAN Hub in router mode controls the transmission of the signals between the EB+ EBS of the preceding and succeeding vehicles within the road train.







# **TEM/TRCM**

Safe Parking	40
TEM: Safe Parking braking schematic	42
TEM+: 2M with TEM+ braking schematic	44
TrCM-TrCM+: Safe Parking braking schematic	46

**Our drivers have** praised the systems because they make their work easier and help prevent emergency situations

> Adam Godawski, Omega Pilzno

# **SAFE PARKING**



# No more risk

Safe Parking stands for increased safety and prevents potentially fatal mistakes by man and damage to material during trailer coupling and uncoupling.

# **SAFE PARKING**



# Less is more

There are two Safe Parking variants available: the well-known Trailer Control Module+ (TrCM+) and the TEM (Trailer Emergency Module) which is a technically simplified version of the TrCM+. TEM is also available in a single knob version with 'Deadman' feature.

TEM is not intended as a replacement for TrCM+, but as a streamlined, lowcost alternative. Those who value emergency braking with the service brake instead of the parking brake can retain this preference with TrCM+.

Haldex is the only manufacturer to offer both these solutions.



The Safe Parking feature is recommended by professional health and insurance organizations to prevent accidents and damage claims.

"We know well enough the causes of accidents", explains Christian Bertholier of the transport and logistics company GEODIS BM, based in Chambry, France. With a total of about 6,000 vehicles, the fleet manager knows accidents due to inappropriate coupling of air hoses or failure to set the parking brake don't happen by chance: "Safe Parking will be the standard at GEODIS BM". Isabelle Vigier, fleet manager at temperature-controlled specialist TFE, which operates some 3,700 vehicles, totally agrees. TFE semi-trailers are in operation up to 23 hours a day and may switch tractors up to 20 times a day. This means that 20 times a day, something that shouldn't go wrong could go wrong.



# Just two mistakes in succession can create serious danger

Error one is failure to activate the parking brake after uncoupling. Error two is connection of air lines in the wrong sequence.

Suddenly, the trailer is a source of risk. If the driver has not yet mechanically connected the tractor unit and the trailer, and if the two are parked on a slope, the trailer can crush the man on the deck against the rear wall of the cab. The other possibility is equally bad - if the trailer rolls backwards, it can threaten bystanders or traffic.

# One of the most common causes of accidents in the transport industry



# **TEAN SAFE PARKING** BRAKING SCHEMATIC



<b>TEM</b> Safe Parking	Shunt valve (black knob)	Park valve (red knob)	Trailer coupled
1 I	pulled	pulled	yes
1 ×	pulled	manually pushed	yes
	pulled	automatic pulled out	no
L 🛔	pushed	pulled	no
	pushed	pushed	no

<b>TECH</b> Safe Parking Single	Shunt valve (black knob)	Park valve (red knob)	Trailer coupled
<b></b>	pulled	pulled	yes
	pushed	manually pushed	yes
Alto	automatic pulled out	automatic pulled out	no
	keep manually pushed	pulled	no

# 

### Safe Parking Single

Pressure protection valve DIN 74279-C 6-22 -Opening pressure 6.2 bar - Closing pressure 5.2 bar

Part no.	Label	Fittings	Pressure protec. valve	Shunt valve	AM part no.
352075001	with	without	with	with	-
352075101	with	with	with	with	352075001
352075201	with	without	with	with	352067001
352075011	with	without	without	with	352075011







### Safe Parking

Pressure protection valve DIN 74279-C 6-22 -Opening pressure 6.2 bar - Closing pressure 5.2 bar

Part no.	Label	Fittings	Pressure protec. valve	Shunt valve	AM part no.
35207503	1 with	without	with	without	352075031
35207505	1 with	without	without	without	352075031



Fit for fleets - TEM/TrCM Haldex



# **76 2NWITHTEM+** BRAKING SCHEMATIC



# Versions

Part number	Shunt valve	Pressure Protection Valve	Safe Parking	Full Trailer Valve	Aluminium label	Warning sticker
352 076 001	With	Without	Without	No	Without	Without
352 076 002	With	Without	Without	No	H131108	Without
352 077 001	With	Without	With	No	Without	Without
352 077 002	With	Without	With	No	H131110	028 0477 19
352 078 001	With	With	Without	No	Without	Without
352 078 002	With	With	Without	No	H131108	Without
352 079 001	With	With	With	No	Without	Without
352 079 002	With	With	With	No	H131110	028 0477 19
352 083 001	With	With	With	Yes	Without	Without
352 083 002	With	With	With	Yes	H131113	028 0477 19

When using versions without Aluminium label and warning sticker, the vehicle manufacturer himself must ensure that the contents of the Aluminium labels and the warning sticker are made clear to the user by means of suitable stickers or labels.





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# **TREA-TREAT**



TFCM	Shunt valve (black knob)	Park valve (red knob)	Trailer coupled
	pulled	pulled	yes
1 ·	pulled	pushed	yes
1 ·	pulled	pushed	no
	pushed	pushed	no
📕 📕	pushed	pulled	no
<b>i</b>	pulled	pulled	no

TrCM+	Shunt valve (black knob)	Park valve (red knob)	Trailer coupled
1 I	pulled	pulled	yes
1 ·	pulled	manually pushed	yes
	pulled	automatic pulled out	no
	pushed	pushed	no
# 📕	pushed	pulled	no

# **TrC/A**

### With back flow valve

In conformity with ECE R13 Annex 8 - 2.8b\* Pressure protection valve DIN 74279-C 6-22 -Opening pressure 6.2 bar - Closing pressure 5.2 bar

Part no.	Label	Fittings	Pressure protec. valve	AM part no.	Notes
352067001	with	without	with	-	
352067011	without	without	with	352067001	
352067021	with	without	without	352067001	with plug on 23,24,25
352067031	without	without	without	352067001	with plug on 23,24,25
352067041	with	with	with	352067001	
352067051	without	with	with	352067001	
352067061	without	with	with	352067001	
352067071	without	with	with	352067001	
352067081	with	with	with	352067001	

### With back flow valve

Not conform with ECE R13 Annex 8 - 2.8b\* since 2011 Pressure protection valve DIN 74279-C 6-22 -Opening pressure 6.2 bar - Closing pressure 5.2 bar

abel	Fittings	protec. valve	no.	Notes
vith	without	with	352067201	
vith	with	with	352067201	
	vith	vith without	vith without with	abel Fittings Pressure AM part protec. valve no. with without with 352067201 with with with 352067201

### \*ECE R13 Annex 8 §2.8b

A reduction in the pressure within the service braking system energy reserve results in a corresponding reduction of the pressure in the spring compression chamber 3



### Without back flow valve

In conformity with ECE R13 Annex 8 - 2.8b\* Pressure protection valve DIN 74279-C 6-22 -Opening pressure 6.2 bar - Closing pressure 5.2 bar

Part no.	Label	Fittings	Pressure protec. valve	AM part no.	Notes
52067001	with	without	with	-	
52067011	without	without	with	352067001	
52067021	with	without	without	352067001	with plug on 23,24,25
52067031	without	without	without	352067001	with plug on 23,24,25
52067041	with	with	with	352067001	
52067051	without	with	with	352067001	
52067061	without	with	with	352067001	
52067071	without	with	with	352067001	
52067081	with	with	with	352067001	

### **TrCM** + Safe Parking

Pressure protection valve DIN 74279-C 6-22 -Opening pressure 6.2 bar - Closing pressure 5.2 bar

Part no.	Label	Fittings	Pressure protec. valve	AM part no.	Notes
852067601	with	without	with	-	
852067611	with	without	with	352067601	
52067621	with	without	without	352067601	with plug on 23,24,25
852067641	with	with	with	352067601	





# **ACTUATORS**

Life Seal+: Durability is king	50
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fits perfectly with our products, which need to run economically, reliably and safely.

Gregor Wilhelmi, Leiter Technisches Büro Werk Wittenberg

апех **Fit for fleets - Actuators** 

# Haldex's overall package

# *LifeSeal*+ DURABILITY IS KING



# **LifeSeal** + the truly sealed double-diaphragm spring brake

**LifeSeal** + model is engineered smart, built strong, and road-tested tough for dependable, durable performance that outlasts ordinary spring brakes. That means fewer parts to buy, less downtime, more days on the job, lower operating costs and durability that never punches out. Put new LifeSeal+ to work for you.

# LifeSeal+



# b lce off

### Technical data disc brake

- Available in 16/24 and 20/24 for disc brake application
- **⊘** 1-way check valve
- Integrated caging tool for robustness,minimized envelope and easier maintenance
- **Higher corrosion protection**
- $\bigcirc$  Available in standard and high force

Size	Part Number	Technical report	Spring force
16/24	175 1624 xxx	BC0165	Standard
20/24	175 2024 xxx	BC0176	Standard
16/24	176 1624 xxx	BC0216	High
20/24	176 2024 xxx	BC0217	High

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# LifeSeal+ spring brakes from Haldex

Ice melts, rain dries, but corrosion never takes a day off. In time, water, de-icers, oils and other elements eat away at your actuators and your operating ratio. You need performance and durability in your brakes. Not rust. So Haldex developed **LifeSeal**+,, the truly sealed double-diaphragm spring brake, to put contaminants and corrosion out of work.

# The durable choice



**LifeSeal** + model is engineered smart, built strong, and road-tested tough for dependable, durable performance that outlasts ordinary spring brakes.

Higher corrosion protection of all internal parts.

That means fewer parts to buy, less downtime, more days on the job, lower operating costs and durability that never punches out. Put new **LifeSeal** + to work for you.



# NOTES

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# **DISC BRAKES**

### 2 in 1 Haldex solution

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ModulX & ModulT the service friendly disc brakes 58

In 2014 we opted for Haldex braking systems and safety equipment. Additionally to the purchase of new systems, both parties meet regularly to discuss wishes, improvements and new developments in order to benefit from mutual knowhow. Through this symbiosis, Haldex offers us the decisive advantage in terms of safety equipment.

> Tim Janoscheck Imperial Chemical Transport GmbH

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**2 IN 1 HALDEX SOLITION** 

# **2 IN 1** HALDEX SOLUTION



# **ModuLT** trailer disc brake pad kits

Haldex's new value disc brake pad kit now fits both GenI and GenII ModulT Haldex disc brakes. It also reduces the chances of the wrong pad retainer being installed on the brake. Available under part number 640001002, the new kit includes four brake pads and an accessory kit with springs, spring brackets and plugs.

With this new product, Haldex provides what customers really need.

\* With Pad retainer

Our drivers have praised the systems because they make their work easier and help prevent emergency situations.

> Adam Godawski, Omega Pilzno

# **ModulX & ModulT THE SERVICE FRIENDLY** DISC BRAKES





More information

**MODULX & MODULT: THE SERVICE FRIENDLY DISC BRAKES** 

Fit for fleets - Disc Brakes



# ModuLX & ModuLT THE SERVICE FRIENDLY DISC BRAKES

# Air disc brake ModulX



Pa	art no. AM	Application	Carrier holes	Туре	Pads	Note
	92200	SAF	6	DB22	without	Kit (2 x 92503, boxed individually)
	92201	SMB	4	DB22	without	Kit (2 x 93840, boxed individually)
	92202	SMB	6	DB22	without	Kit (2 x 93839, boxed individually)
	92203	SAE	6	DB22	without	Kit (2 x 93837, boxed individually)
	94728	Gigant	6	DB22LT	without	Kit (2 x 93842, boxed individually)
92245	94605	Volvo/Renault	6	DB19	without	
92246	94605	Volvo/Renault	6	DB19	without	
92249	94605	Volvo/Renault	6	DB19	without	
92250	94605	Volvo/Renault	6	DB19	without	
92253	94605	Volvo/Renault	6	DB19	without	
92254	94605	Volvo/Renault	6	DB19	without	
92257	94605	Volvo/Renault	6	DB19	without	
92258	94605	Volvo/Renault	6	DB19	without	
92259	94605	Volvo/Renault	6	DB19	without	
92260	94605	Volvo/Renault	6	DB19	without	
	92502	SAF	6	DB22	with	Available in pair (kit 92200)
92503		SAF	6	DB22	without	Available in pair (kit 92200)
92560	92559	SAF	6	DB19	without	92559 is with pads
92612		All	6	DB22	with	2 mm pitch on carrier
92774		SAF	6	DB22	without	Available in pair (kit 92200)
92802		DANA	6	DB22	with	USA
92808		SMB	4	DB22	with	Available in pair (kit 92201)
92824		All	6	DB22LT	with	Available in pair (kit 94728)
93103	94605	Volvo/Renault	6	DB19	without	
93104	94605	Volvo/Renault	6	DB19	without	
93222	94728	Gigant	6	DB22LT	with	(Kit 94728) is a pair without pads
93694	94769	Gigant	6	DB19	without	
93695	94728	Gigant	6	DB22LT	without	(Kit 94728) is a pair without pads
93696		SMB	6	DB22	without	Available in pair (kit 92202)
93697		SMB	4	DB22	without	Available in pair (kit 92201)
93698		SAE	6	DB22	without	Available in pair (kit 92203)
	93835	SMB	6	DB22	with	Available in pair (kit 92202)
93836		SAE	6	DB22	with	Available in pair (kit 92203)
93837		SAE	6	DB22	without	Available in pair (kit 92203)
93839		SMB	6	DB22	without	Match 93835 - pads or pair (kit 92202)
93840		SMB	4	DB22	without	Available in pair (kit 92201)
93841		Gigant	6	DB22LT	with	Match (93842 + pads)
93842		Gigant	6	DB22LT	without	Available in pair (kit 94728)
93963	94769	SAE	6	DB19	with	
	94605	Volvo/Renault	6	DB19	without	
	94769	Gigant	6	DB19	without	

### Pad wear indicator (PWI)

			•	, •
Part no.	Туре		Cable (mm)	Note
	Single PWI (compatib with all disc brakes)	le	650	without pad retainer
815015002	Twin PWI (compatible with all disc brakes)	•	600 / 670	with pad retainer with cable clamp
Pad wea	r sensor	(F	PWS)	~
Part no.	Туре		No	te
94610	PWS	4 pir	ns	
0				1177

### Spares & repair kits ModulX

Part no.	Description	Application
89796	Brake pad (DB19); 4 pads 🖲	SAE/Gigant
90693	Adjustment shaft kit (s/n 143>; MarkIV+ModulX) for pad clearance adjustment	
92008	Brake pad (DB22 MarkIV+ModulX); 4 pads 🜖	SAF/BPW
92009	Brake pad (DB22 MarkIV+ModulX); 4 pads 🖲	SMB
92010	Brake pad (DB22 MarkIV+ModulX); 4 pads 8	SAE
92985	Application mechanism assembly (ModulX DB22LT)	
92994	Brake pad (ModulX DB22LT); 4 pads 8	All
93299	Repair kit sliding function (s/n 5150001>;ModulX); with slide pins	
93887	Brake pad (ModulX DB22LT); 4 pads 🛛	SMB/Gigant
94608	Brake pad (DB19); 4 pads; PWI 8	Volvo/Renault
94659	Brake pad assembly kit (x2 calipers)	All
94660	Sliding function sealing kit (ModulX); without slide pins	
94665	Protection spring kit (MarkIV+ModulX)	
94740	Puck kit (DB19); to allow PWS use	
95566	Brake pad (DB19 ModulX+MarkIV); 4 pads 🖲	SAF
Pad v	vear indicator (PWI)	<u>P</u> Pi
Part no.	Type Cable (mm) N	ote
96150	PWI kit 400 Incl. pad ret. with cover a retainer with	nd cables
Legend		
Legenu		

### Text in red No Longer Available

### Air disc brake ModulT



OEM	AM	Application	holes	Туре	Pads	Description
94618	H119989C (Gen <b>l</b> )	SAF 03 080 0082 01	-	DBT22LT	without	Disc brake complete right side; carrier () calliper bare and acce
94619	H119988C (Gen <b>l</b> )	SAF 03 080 0081 01	-	DBT22LT	without	Disc brake complete left side; r rier <sup>(6)</sup> calliper bare and accesso
96842 03 080 0098 71	95623C (Gen <b>ll</b> )	SAF 03 080 0098 51	-	DBT22LT	without	Disc brake complete right side; carrier () calliper bare and acce
96841 03 080 0097 71	95622C (Gen <b>ll</b> )	SAF 03 080 0097 51	-	DBT22LT	without	Disc brake complete left side; r carrier () calliper bare and acce
	95621C	Krone / Gigant	-	DBT22LT	with	Disc brake right side; no carrier calliper bare and accessories
	95620C	Krone / Gigant	-	DBT22LT	with	Disc brake left side; no carrier calliper bare and accessories
96938 (Gen <b>ll</b> )	96552 (Gen <b>ll</b> )	Krone / Gigant	6	DBT22LT	without	Disc brake right side; with carricalliper bare; no accessories
96937 (Gen <b>ll</b> )	96551 (Gen <b>ll</b> )	Krone / Gigant	6	DBT22LT	without	Disc brake left side; with carrie calliper bare; no accessories
95446 (Gen <b>l</b> )	97432 (Gen <b>ll</b> )	ADR / SAE	6	DBT22LT	with	Disc brake complete right side
95447 (Genl)	97433 (Gen <b>ll</b> )	ADR / SAE	6	DBT22LT	with	Disc brake complete left side
95888 (Gen <b>l</b> ) H160050 (Gen <b>l</b> )	96546 (Gen <b>l / ll</b> )	Jost	6	DBT22LT	without	Disc brake right side; with carr calliper bare; no accessories
95889 (Gen <b>l</b> ) H160051 (Gen <b>l</b> )	96545 (Gen <b>l / ll</b> )	Jost	6	DBT22LT	without	Disc brake left side; with carrie calliper bare; no accessories
95275 96267	96305C	SAF / Krone / Gigant / Assali Steffen	-	DBT19LT	with	Disc brake right side; no carrie calliper bare and accessories
95274 96268	96304C	SAF / Krone / Gigant / Assali Steffen	-	DBT19LT	with	Disc brake left side; no carrier calliper bare and accessories
96357	96548	Assali Steffen	4	DBT19LT	without	Disc brake right side; with carr calliper bare; no accessories
96356	96547	Assali Steffen	4	DBT19LT	without	Disc brake right side; with carr

### Tools - test equipment ModulT

art no.	Description	Part no.	Description
95231	Tool kit ModulT	95226	Calliper bellows press right ()
95210	Pulling bracket 🕲	95233	Socket insex 🗿
95219	Mandrel	95237	Tool box ModulT
95221	Clamp	95423	Axial ball bearing
95222	Cup	96819	Spindle
95224	Thrust plate bellows press ()	96820	Nut
95225	Calliper bellows press left 😗	97240	Reset tool, torx 🕲











More information



### Spares & repair kits ModulT

Part no.	Description	Ар	plicati
95396	Brake pad replacement kit (Mo	dulT)	All
	4 brake pads <b>3</b>		
	4 pad springs 0		
	4 pad retainers (2 Genl and 2 G	Gen <b>li) O</b>	
	2 spring brackets 3		
	2 plugs 🕲		
95397	Repair kit sliding function (Mod	dulT)	All
	2 bearings 0		
	1 spacer 9		
	1 leading slide pin <b>2</b>		
	2 screws (M16 x 80) 3		
	1 leading slide protective cup	,	
	1 trailing bushing <sup>(1)</sup>		
	1 trailing slide pin 1		
	1 trailing slide protective cup		
	1 plug 🖲		
	2 bellows complete		
05209	1 spring bracket		All
95398	Adjustment shaft kit (ModulT)		All
	1 reset shaft complete		
95399	1 plug 1 Application unit sealing kit		
2229	Application unit sealing kit		
	1 bellows (9		
	1 grease tube		
	1 spring bracket 4		
Pad Part no.	Wear indicato	=	B
		mm) No Incl. pad retain with cover and	ner d cables
Part no.	Type Cable (	mm) No	ner d cables
Part no.	Type Cable ( PWI kit 400	mm) No Incl. pad retain with cover and	ner d cables
<b>Part no.</b> 96150	Type Cable ( PWI kit 400	mm) No Incl. pad retain with cover and retainer with s	ner d cables
Part no. 96150	Type Cable ( PWI kit 400	mm) No Incl. pad retain with cover and retainer with s	her d cables
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Part no. 96150	Type Cable ( PWI kit 400	mm) No Incl. pad retain with cover and retainer with s	ner d cables
Part no. 96150	Type     Cable (       PWI kit     400       d	mm) No Incl. pad retain with cover and retainer with s	ner d cables
Part no. 96150 Leger Text in	Type     Cable (       PWI kit     400       d	mm) No Incl. pad retain with cover and retainer with s	ner d cables
Part no. 96150 Leger Text in	Type     Cable (       PWI kit     400       d	mm) No Incl. pad retain with cover and retainer with s	ner d cables
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Part no. 96150 Leger Text in	Type     Cable (       PWI kit     400       d	mm) No Incl. pad retain with cover and retainer with s	ner d cables
Part no. 96150 Leger Text in	Type     Cable (       PWI kit     400       d	mm) No Incl. pad retain with cover and retainer with s Available	ner d cables

Fit for fleets - Disc Brakes



# **SUSPENSION**

ILAS-E+: Technical information	64
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If technology is important, there is only one air valve brand to consider. **Air Suspension Control Valves** are used to automatically control the vehicle's ride height by inflating and deflating the air suspension bellows to adjust for variations between loaded and unloaded vehicles. They are also used for cab suspensions to provide ride comfort for the operator and for bus suspension application, including kneeling capability.

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# **TECHNICAL** INFORMATION



**ILAG-E+** is an innovative further development of the well known **ILAG** -System family.

# **Benefits**

- **Optimised and easier installation**
- ⊘ Low weight and small size
- Compatible with Haldex EB+ and other EBS Systems
- ⊘ DIN-Bayonet DIN 72585-A1-2.1 SN / K1

# //A*S-E*+

**IES-E**<sup>+</sup> is used for electrically controlled lifting and lowering of one or several lift - axles with conventional air suspension systems. With electronically controlled air brake systems, e.g. EB+, **IES-E**<sup>+</sup> are controlled by the load depended output signal. Traction option using a switch and speed signal (EB+). Use Semi-trailer Centre-axle-trailer Drawbar-trailer

//A*5-E+* 

# **Technical data**

Operating pressure	pe = 8.5 bar
Switch pressure	4.5 bar + 0.5 bar
⊘ Operating temp.	-40°C + 80°C
⊘ Weight	ca. 0.70 kg
Solenoid data, versio Voltage Current power	ons I, II 24 V + 7.0 / -8.0 150 mA / 3.5 W
⊘ Type of protection for DIN	or N 40050 - IP 6K 9K
Admissible energizati	on time 100 % ED

# **Port description**

<b>Versions I, 1.1, 1.2</b>	supply
Versions II, 1.1	supply
⊘ Port 11	air suspensed axle
⊘ Port 21.1, 21.2	lift axle
Port 22.1, 22.2	lift bellow
⊘ Port 3	exhaust
🔗 Push-In	M 12 x 1.5 for 8 x 1

# Versions

352 080 001 Version I
 352 080 011 Version II



# **Design and Function**

Dimensions Version I, 352 080...



Dimensions Version II, 352 080...



### Symbol DIN ISO 1219

Version I



Version II







# **COA5** single TECHNICAL INFORMATION

The manual raise / lower valve with RoRo-function, is used for raising and lowering the deck height of trailers with air suspension.



# **Benefits**

- Single circuit
- Obead man's function
- **O** Push-to-connect fittings
- **⊘** High air fl ow for quick response
- RoRo-function (Roll-on, Roll-off)
- RtR-function (automatic reset to ride height)
- ⊘ Integration of test point (ISO 3583)
- Minimising of transport, logistics and store costs
- Application in conjunction with ABS & EB+
- Bayonet connection DIN 72585-A1-2.1 SN / K1

# **CDIA5**, + single

Haldex is offering a new **CDES**+single raise / lower valve for trailers with a single air suspension. Which has a integrated high range of functions, dead man's function, RoRo-position and its automatic reset to ride height. As further fl exibility, a high air fl ow is realised. With electronically controlled air brake systems, e.g. EB+, **CDES**+ single are controlled by the load depended output signal.

# **COA5**+ single





**Use** *⊙* Semi-trailer

⊘ Centre-axle-trailer

# **Port description**

1 = Supply, DIN 74324-8x1
11 = Levelling valve
21 = to the air bellows
3 = Exhaust

# **Technical data**

- ⊘ Operating pressure pe max 8.5 bar
- $\bigcirc$  Operating temperature -40°C to +80°C
- ✓ Permissible duty 10 s
- ✓ Voltage
  UB = 24VDC +7/-8
- Current/power Io = 150mA / Po = 3.5W
- ⊘ Type of protection DIN 40050-IP 6K 9K

# Versions

- ✓ 338 071 101: with dead man's function, with RtR, 8x1 mm push-in, c/w test point, with RoRo at lowering locked

# **Design and Function**

Dimensions 338 06. ...

Schematic pneumatics 338 06. ...



Fit for fleets - Suspension



# **CDA5** dual TECHNICAL INFORMATION

The manual raise / lower valve with RoRo-function, is used for raising and lowering the deck height of trailers with air suspension.



# **Benefits**

- Ouble circuit
- O Dead man's function
- Push-to-connect fittings
- High air flow for quick response
- RoRo-function (Roll-on, Roll-off)
- RtR-function (automatic reset to ride height)
- Optional integration of test point (ISO 3583)
- **Minimising of transport**, logistics, store costs
- Application in conjunction with ABS & EB+
- **Bayonet connection** DIN 72585-A1-2.1 SN / K1

# COLAS + dual

Haldex is offering a new **CDAS** + raise / lower valve which has an unparalleled high range of functions. Not only the usual features such as dead man's function are integrated, it also uses the RoRo-position and its automatic reset to ride height if the driver forgets to switch back to the drive position. Reset to ride height (RtR) is a function, which prevents damaging of the bodywork and wheel suspension, controlled by the EB+ System: A corresponding signal is sent by the EB+ to COLS+, which resets the chassis to drive height. As further flexibility, a high air flow is realised.

# COLAS.+ dual

# Port description

✓ 1 = Supply, DIN 74324-8x1 ✓ 11, 12 = Levelling valve  $\bigcirc$  21, 22 = to the air bellows

 $\bigcirc$  3 = Exhaust

# **Technical data**

Operating pressure	pe max 8.5 bar
Operating temperatu	re -40°C to +80°C
Permissible duty	10 s
⊘ Voltage	UB = 24VDC +7/-8
⊘ Current/power lo	= 150mA / Po = 3.5W
⊘ Type of protection	DIN 40050-IP 6K 9K

# Versions

- ⊘ 338 071 101: with dead man's function, with RtR, 8 mm push-in, c/w test point, with "RoRo" at lowering, c/w bayonet, c/w filter
- **⊘** 338 071 111: with dead man's function, with RtR, 8 mm push-in, w/o test point, with "RoRo" at lowering, c/w flat contact, c/w filter
- **⊘** 338 071 121: w/o dead man's function, w/o RtR, 8 mm push-in, c/w test point, with "RoRo" at lowering, c/w filter
- with RtR, 10 mm push-in, c/w test point, with "RoRo" at lowering, c/w bayonet, c/w filter
- **⊘** 338 071 141: with dead man's function, with RtR, 10 mm push-in, w/o test point, with "RoRo" at lowering, c/w flat contact, c/w filter
- w/o RtR, 10 mm push-in, c/w test point, c/w filter

# **Design and Function**

Dimensions 338 07. ...



### Schematic pneumatics 338 07. ...







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Haldex has always been a reliable partner who really understands our requirements

> Norbert Klostermann, Gigant

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# **EB+ SOFT DOCKING:** MANY SAFE RETURNS



# **EB+** Soft Docking

Accidents happen all too easily when docking at a loading bay. **CB+** Soft Docking helps prevent damage by automatically activating vehicle brakes as the distance between vehicle and ramp becomes critical.

# **EB+** Soft Docking



# Safely into the loading bay

- ✓ Multiple, ultrasonic sensors mounted on the rear of the vehicle detect the distance to the loading bay
- ✓ When the rear of the vehicle is within one metre of the ramp, the system automatically determines vehicle speed and load weight and applies vehicle brakes accordingly
- At a distance of less than 0.5 metres, intermittent beeping becomes one continuous beep and position lights shine continuously



**CB**+ Soft Docking has more functionality and is more compact than ever. The system's design makes blind spots at the rear of the vehicle a thing of the past. The new electronic control unit is CAN-bus compatible and can communicate directly with EB+. Because temperature affects ultrasonic sensors, the second generation of Soft Docking records outdoor temperature. This guarantees optimal functionality independent of climate and weather. In addition, **CD**+ Soft Docking and CANbus compatibility means all trailer electronics, such as the Haldex TPMS tyre pressure monitoring system, can utilise recorded temperature data. For nighttime deliveries, the system offers a mute option for the audio warning signal.

offe



# **EB+ SOFT DOCKING**

# What can go wrong will go wrong

Murphy's Law holds even for docking at a loading bay: If something can go wrong it will go wrong. Statistics show that about 35 percent of all incidents that cause damage occur when reversing a truck. About every three months, a refrigerated vehicle takes a knock that results in damage costing, on average, EUR 500-1,500.





# **Extended functionality**



# Low cost investment, easy to retrofit

**Context** Soft Docking is installed on the trailer. The system does not require connection to the tractor unit. It is a stand-alone solution that is easy to retrofit.



# TPM52.0 UNDER PRESSURE



# **TPM520** Tire Pressure Monitoring System

The TPAGe constantly measures the air pressure and temperature in the tires of trailers. It extends tire life, reduces fuel consumption and avoids vehicle breakdown or accidents due to flat tires. Our new TPMS 2.0 is compatible with EB+ 4.0 and is compliant with R141.

# TPMS 2.0



# Haldex TPMS 2.0 at a glance

The Haldex TPMS 2.0 monitors both the pressure and the temperature of each individual trailer tire and is compatible with the Haldex EBS for trailers.

- **⊘** Constant measuring of tire pressure and temperature
- **Orevented breakdowns and saved** costs
- **Extended** tire lifetime
- **⊘** Increased road safety
- **⊘** Less fuel consumption
- **⊘** Tire puncture detection
- **Reduced CO**, emission
- **⊘** EB+ 4.0 gateway functionality is compliant with 2022 TPMS legislation
- **⊘** Passed Type Approval testing with ΤÜV

# Calculate your saving on www.haldex.com/TPMS



You will be astonished how quickly the Haldex TPMS pays for itself.



# **Enormous potential**

A tire air pressure 20% below the recommended level reduces tire life by 20%. As for tractor vehicle fuel consumption: a 20% drop in air pressure means about 2% increase in fuel consumption. Fuel represents on average between 15% to 25% of the company expenses, the savings potential is then considerable!

Haldex TPMS measures not only the pressure but also the temperature of the tires. An underinflated tire gets hotter than a properly inflated one. And there can also be situations where a tire is properly inflated but its temperature is too high (due to radiation from the brake or a roller bearing in bad condition e.g.).



# Flexible attachment of the sensors

Haldex's 'flexible' attachment system provides a degree of freedom to the sensor if it gets bumped by the tire bead. The other major advantage of a 'flexible' attachment is its versatility:



it can be used on all types of rims and profiles.

# **Fully compliant**

Our improved TPMS keeps up the high standards of Haldex, all while being up to industry standards. The TPMS 2.0 is compatible with the R141 legislation. Haldex next generation TPMS in combination with

EB+4.0 is fully compliant with the revised legislation for both OE and aftermarket.

### **Fit for fleets - Features**



TPMS 2.0

# TPM52.0 UNDER PRESSURE



# **TPM5** *z.o* Tire Pressure Monitoring System (!)

The **TPM5**20 constantly measures the air pressure and temperature in the tires of trailers. It extends tire life, reduces fuel consumption and avoids vehicle breakdown or accidents due to flat tires. Our new **TPMS 2.0** is compatible with EB+ 4.0 and is compliant with R141.

# **SEMI/CENTRE AXLE TRAILER**



TPMS 2.0 RCU/Cables			
Part number	Qty	Description	
815 058 001	1	TPMS 2.0 RCU manual configuration	
844 534 012	1	TPMS 2.0 Cable Terminated 1.2 m	
844 536 012	1	TPMS 2.0 Cable Unterminated 1.2 m (alternative)	

## WHEEL UNIT SENSOR KITS



TPMS 2.0 wheel unit sensor kit				
910 815 024				
Part number	Qty	Description		
042 7272 19	1	Wheel Unit Sensor (WUS)		
003 9517 09	1	Cable clamp assembly		
006 700 021_M	1	WUS Sticker		





H152934



# **FULL TRAILER**



TPMS 2.0 RCU/Cables				
art number	Qty	Description		
315 058 001	2	TPMS 2.0 RCU manual configuration		
344 534 012	1	TPMS 2.0 Cable terminated 1.2 m		
344 536 060	1	TPMS 2.0 second RCU Cable 6 m		
344 537 100	1	TPMS 2.0 second RCU Cable 10 m (alternative)		

# **CONFIGURATION**/ **ANALYSING TOOLS**



**Fit for fleets - Features** 

# TPMS 2.0

# **EB+INFO CENTER:** TRAILER DIAGNOSTIC UNIT

EB+ Info Centre

Axle Load Sum

FUB

4000kg

Haldex



# the truck dashboard

# **EB+** Info Center

All-knowing. **EB+** Info Center can display load information in kilograms and in bar graph form. It can also show total percent bogie weight and read any diagnostic trouble code from the EBS ECU.

# **EB+** Info Center



# Benefits

- ✓ Connected permanently

With the internal battery, the Info Centre 2 is not ADR approved but an ADR variant is available to cover this category of vehicles.

Haldex Fit for fleets - Features

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# Lots of information available

The Info Centre 2 is a side of trailer mounted diagnostic unit used for readout of odometer, diagnostic codes and other information as available in the EB+ Electronic Control Unit (all current features available when an EBS Gen2 is programmed and using C497 / 498 / 499 or when an EBS Gen3 is programmed and using E653 or when an U-ABS is programmed and using A650 or higher level of software).

# Always connected !

The Info Centre 2 is connected permanently to the ECU's diagnostic 'DIAG' connection. While the ECU is powered from its normal source (ISO7638 permanent) information is transferred to the Info Centre's memory, which can be recalled. Power is supplied from the vehicle system via the ECU diagnostics connector.Info Centre 2 comprises an LCD (Liquid Crystal Display) and three buttons marked with up/ down arrows and an OK button.Info Centre 2 also has an internal battery which allows readout of information (including fault indication) when the trailer is uncoupled and unpowered.

Fit for fleets - Features



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# TRAILER APPLICATION GUIDE



# A complete overview and transparent trailer technology

Whether vehicle construction, workshop repair or spare part distribution, the Trailer Application Guide provides unique electronic access to all Haldex systems for trailers.

Scan the Qr code to test it







# **TRAILER PRODUCT OVERVIEW**



Learn more







Air Brake TEM+

# TRAILER PRODUCT OVERVIEW

Fit for fleets - Services



# **TECHNICAL** SUPPORT

# **Dedicated Technical Hotlines** +44 (0)1509 600185 0891 89 95 90\* \* Coût de la communication : 0,80€/min. Service disponible : Service available $\bigcirc$ Monday to Thursday 8:30 - 17:00 Du lundi au vendredi Seriday 8:00 - 16:00 **De 8h30 - 12h et de 13h30 - 17h30**

# +49 6095 301 602

**Erreichbar** .Þ Von Montag bis Freitag **5** 9:00 - 12:00 und 14:00 - 17:30

### Serwis dostępny Od poniedziałku do piątku άþ 8:00 - 16:00

+48 609 793 357

Haldex training



Haldex offers compact training courses for everything that needs to be known, from compressed air braking technology and air suspension to complex ABS and EBS systems.





# Haldex distribution network

Close proximity to our clients is one of our primary criteria for ensuring customer satisfaction. Whether it be a specialised Haldex Select distributor, a manufacturer workshop, or central purchasing, the Haldex Service network is always close by.

The goal: to reduce waiting time and increase productivity.

Find all the local service on our website.



Scan and find all Haldex partners

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# **SOCIAL MEDIA**









Follow us on our YouTube channel for product related informationand releases!



# Follow us on Linked in





Follow us on LinkedIn to get all the relevant news and informationregarding Haldex

Fit for fleets - At your service



# NOTES



Fit for fleets - At your service



# NOTES



Fit for fleets - At your service



# CONTACT

Haldex develops and provides reliable and innovative solutions focused on brake and air suspension products to the global commercial vehicle industry. Over 130 years of innovation have provided Haldex with competitive expertise in brake and air suspension systems for commercial vehicles. Haldex is a long-term partner to manufacturers of heavy trucks, trailers and buses, as well as to axle manufacturers.

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