

18. November 2022

Woodward GmbH, Handwerkstrasse 29, 70565 Stuttgart

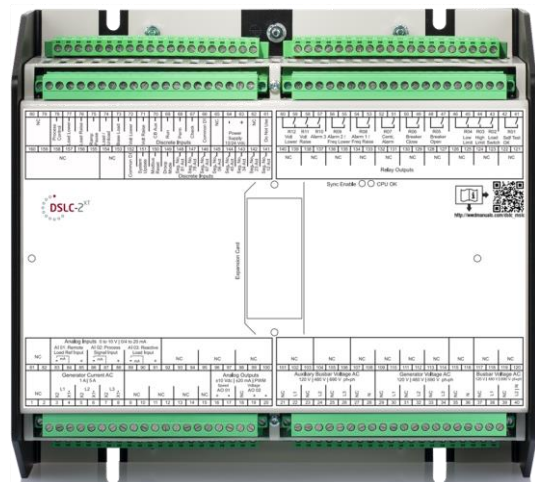
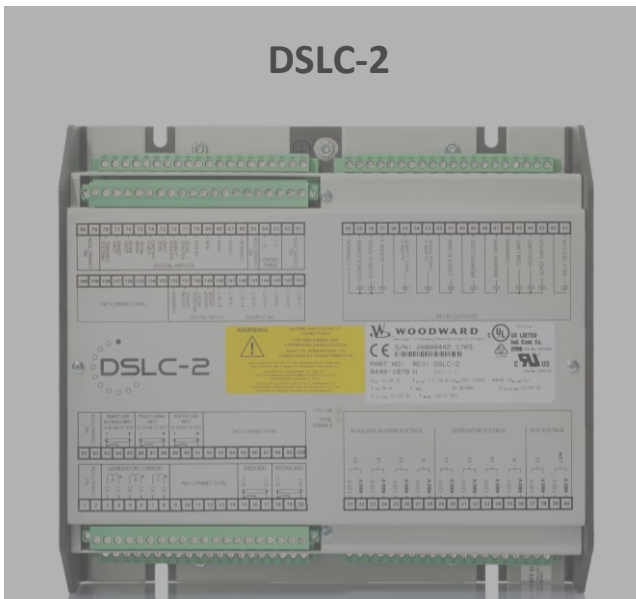
**SUBJECT: Introduction of drop-in successor DSLC-2XT/MSLC-2XT and transition process**

**OLD**

**NEW**

**DSL-2**

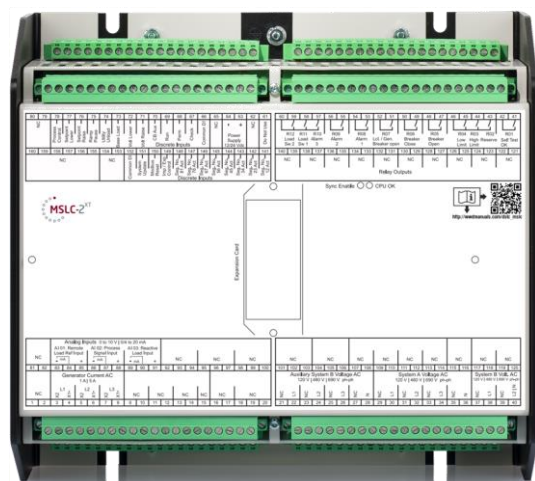
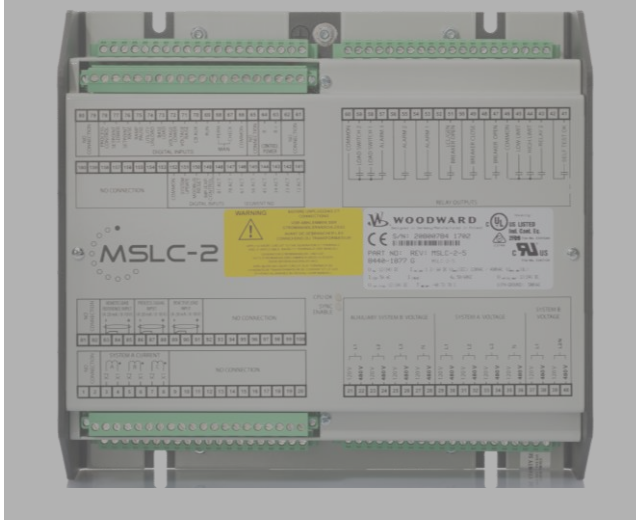
**DSL-2XT**



\*No actual product picture, only a representation

**MSLC-2**

**MSLC-2XT**



\*No actual product picture, only a representation

Woodward understands time-intensive nature of Power Generation projects. Ensuring longevity of our products is one way we help make our customers successful. Woodward has supplied and supported the field proven MSLC-2/DSLCL-2 line of synchronizers and load controllers for over a decade. An upcoming state of the art Drop-In replacement extends the life cycle of this product line for another decade and possibly beyond. This document introduces the successor controllers, namely MSLC-2XT/DSLCL-2XT respectively and highlights transition process.

### **Important Features:**

- Drop-In Replacement (Mounting dimensions and overall dimensions are same)
- Similar Look and Feel (available in back panel mounting style)
- USB Connectivity to PC (RS-232 port is removed)
- Direct connect up to 690VAC (increased range handled by device configuration)
- Software selectable 1A/5A CT input (supported by one P/N)

Refer to the appendix "A" for an overview of the new -2XTs.

The new -2XTs are ready to be ordered. Shipment is expected to start from Mar'23. However, as material shortages across the semiconductor industry continue to impact global supply chains, Woodward is among many companies experiencing component supply constraints. This may cause extended lead times and/or electronic surcharge on -2XT orders.

The -2 versions will continue to be available as long as they can be built (anticipated through Jun'23). No new orders of -2 versions are accepted effective immediately. Upon specific request, Woodward may consider supplying limited quantities of -2 versions after past due shipments have been completed.

### Availability of MSLC-2/DSLCL-2 controllers

- From 21-Nov-2022 any POs with -2 item numbers cannot be accepted. We request our customers to change the PO to the corresponding -2XT item numbers that are form, fit and function successor.
- In certain instances when an old -2 item number must be applied, upon specific request till 31-Dec-2022 Woodward will evaluate the request and may accept/decline the old item number order depending upon stock availability and suitability of successor items.
- Applications that require mix of -2 and -2XT versions, Woodward provides update files for legacy -2 controllers that make the load share messages fully compatible with -2XTs.

Please contact your Account Manager for latest information on pricing and availability.

From 01-Jan-2023, Woodward will commit to the following support plan for the legacy -2 items:

**01<sup>st</sup> Jan 2023 – 31<sup>st</sup> Dec 2023**

- Repairs
- Limited spares based upon available inventory

**01<sup>st</sup> Jan 2024 – 31<sup>st</sup> Dec 2026**

- Limited repairs based on components availability

Further parts obsolescence from electronic manufacturers can present a challenge to post-life support plans. Woodward strives to hold inventory or look for alternative parts when components are obsolete. However, there are times when components can simply not be obtained and where sufficient last-time buys cannot be made. In these cases, Woodward cannot always guarantee that we can maintain the rationalization support plan.

**Part Number Map:**

<u>New P/N</u>	<u>New Description</u>	<u>Old/Current P/N</u>	<u>Old/Current Description</u>
<b>8440-2298</b>	<b>MSLC-2XT</b>	8440-1877	MSLC-2-5
		8440-1977	MSLC-2-1
<b>8440-2299</b>	<b>DSLCL-2XT</b>	8440-1878	DSLCL-2-5
		8440-1978	DSLCL-2-1

We thank you for being a valued customer of Woodward. If you have any questions about this product support plan, please contact your Account Manager or undersigned.

With Regards,



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## **Appendix "A":**

### **General:**

The DSLC-2XT/MSLC-2XT is an upward compatible successor device for the DSLC-2/MSLC-2. They are based on the easYgen-3400XT-P2 hardware. It is designed to function as good as the original DSLC-2/MSLC-2 (version 1.1511). The new generation is equipped with a more powerful CPU, memory, and communication. It is more responsive in HMI and SCADA communications. The important control functions run on the same task rates that ensures the same control dynamic.

Most important, it is designed to be able to run with the legacy DSLC-2/MSLC-2 system. If some minor rules are observed the -2XTs can be mixed with already existing DSLC-2 / MSLC-2 in an application.

### **Important Considerations:**

#### **1. Communicating with legacy DSLC-2 (and MSLC-2)**

Woodward will provide update files for legacy DSLC-2 and MSLC-2 devices in the field if there is to run a mix of both DSLC-2/MSLC-2 generations. The legacy device will then send their UDP messages in a way that DSLC-2XT/MSLC-2XT can evaluate. It is mandatory to load this update file into the legacy devices for the system to run smoothly.

#### **2. Using your existing settings file (\*.WSET) from legacy DSLC-2 (and MSLC-2)**

Woodward will provide a conversion rule for ToolKit to make the configuration transfer as smooth as possible. Some minor parameters will be shown in a log file, to be evaluated manually.

#### **3. The AC measurement of the DSLC-2XT (and MSLC-2XT)**

The measurement hardware and software are different in comparison to the legacy devices. This is mainly due to higher accuracy, more flexible measurement range and fast response characteristics. The earthing of the DSLC-2XT/MSLC-2XT devices has become more important due to higher impedance of the measurement circuits.

#### **4. ToolKit**

To give you a seamless transition experience, the ToolKit layout (\*.WTOOL file) is designed like the original devices. There are few less parameters due to new AC measurement and communication interfaces.

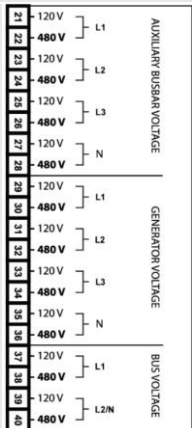
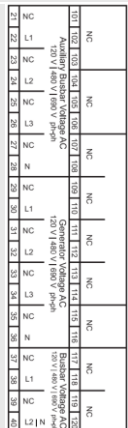
#### **5. Documentation server**

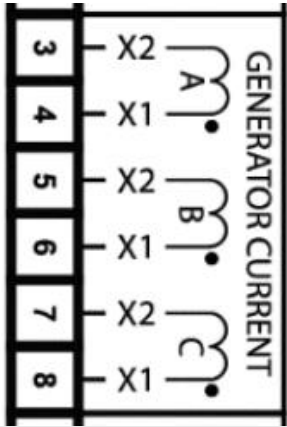
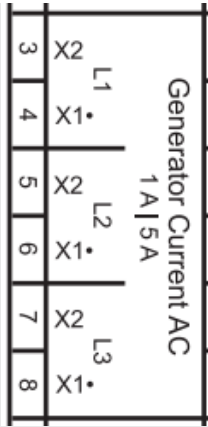
Product literature (manuals, config. files, software etc.) is hosted on a documentation server that is easily accessible by a QR code printed on the housing. Two additional QR stickers are delivered with

the controllers to help you paste them at a location convenient to you. Subsequently, product CD is removed from scope of delivery.



**AC Measurement:**

	DSL-2/MSL-2	DSL-2XT/MSL-2XT	Comments
<b>Voltage measurement</b>	Rated: 120V   480V	Rated: 120V   480V   690V	AC voltage measurement capability is expanded to 690 Vrated
Linear measuring range	Maximum: 150V   600V	Maximum: 897V	Max. = 1.3x Vrated
Terminal diagram			Wiring difference, no separate terminals for 120 Vac input. 120V   480V   690V is handled by parametrization
<b>Frequency</b>	50/60Hz (40.0 to 85.0 Hz)	50/60Hz (30.0 to 85.0 Hz)	
<b>Current measurement</b>	1A or 5A, two separate hardware numbers	1A or 5A, same hardware	Simplifies inventory management
Linear measuring range	1.5 x Irated	3 x Irated	Realize enhanced protection schemes
Burden	< 0.15VA	< 0.10 VA	Grid code requirement

Terminal diagram			no separate part number for 1A and 5A CT inputs, handled by parametrization
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**I/O:**

	DSL-2/MSL-2	DSL-2XT/MSL-2XT	Comments
<b>Discrete inputs</b>			
Min. delay time	80ms	20ms	Shall help to achieve < 100ms switchover
<b>Analog inputs</b>			
Resolution	11 Bit	14 Bit	
Accuracy	1%	0.5%	Better accuracy
<b>Analog outputs</b>			No AO in MSL-2 or MSL-2XT
<b>AO#1</b>	Freely scalable ±10 Vdc, ±20 mA, PWM	Freely scalable ±10 Vdc, ±20 mA, PWM Pre-configured to „11.03 Speed bias [%]“	Preferred for speed biasing
<b>Resolution</b>	Max. 12 Bit	Min. 12 Bit	

<b>AO#2</b>	Freely scalable ±10 Vdc, ±20 mA, PWM	Freely scalable ±10 Vdc, ±20 mA, PWM Pre-configured to „11.02 Voltage bias [%]“	Preferred for AVR biasing
<b>Resolution</b>	Max. 12 Bit	Min. 12 Bit	
<b>Isolation</b>	100 VAC	Basic isolation to PE: 500 VAC Reinforced isolation to PE: 300VAC	Enhanced isolation

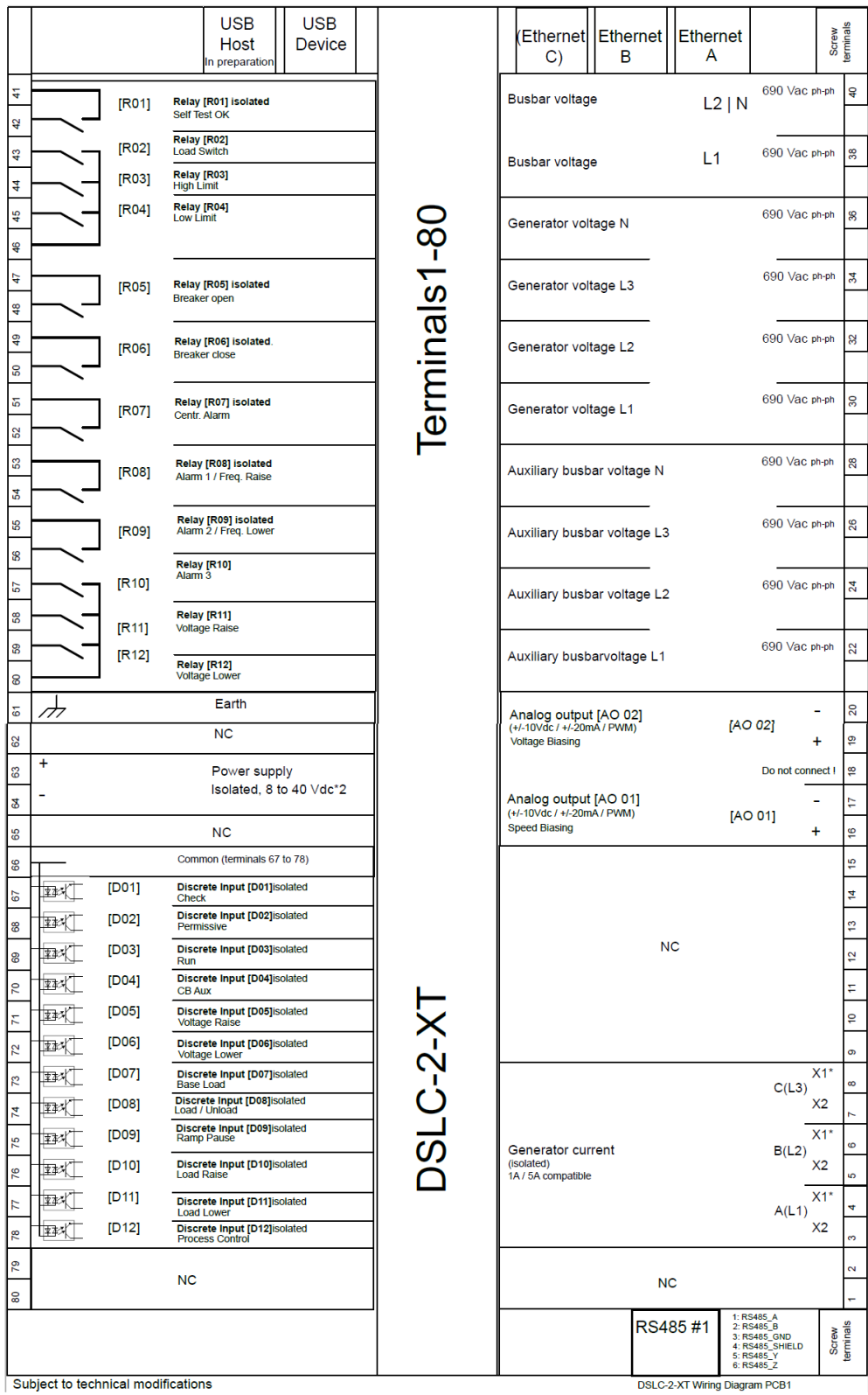
**Interfaces:**

	<b>DSLC-2/MSLC-2</b>	<b>DSLC-2XT/MSLC-2XT</b>	<b>Comments</b>
<b>Service Port</b>	RS-232	USB	No extra/special cable required for programming
Ethernet	2	3	1 additional Ethernet connection (named Ethernet C) is provided

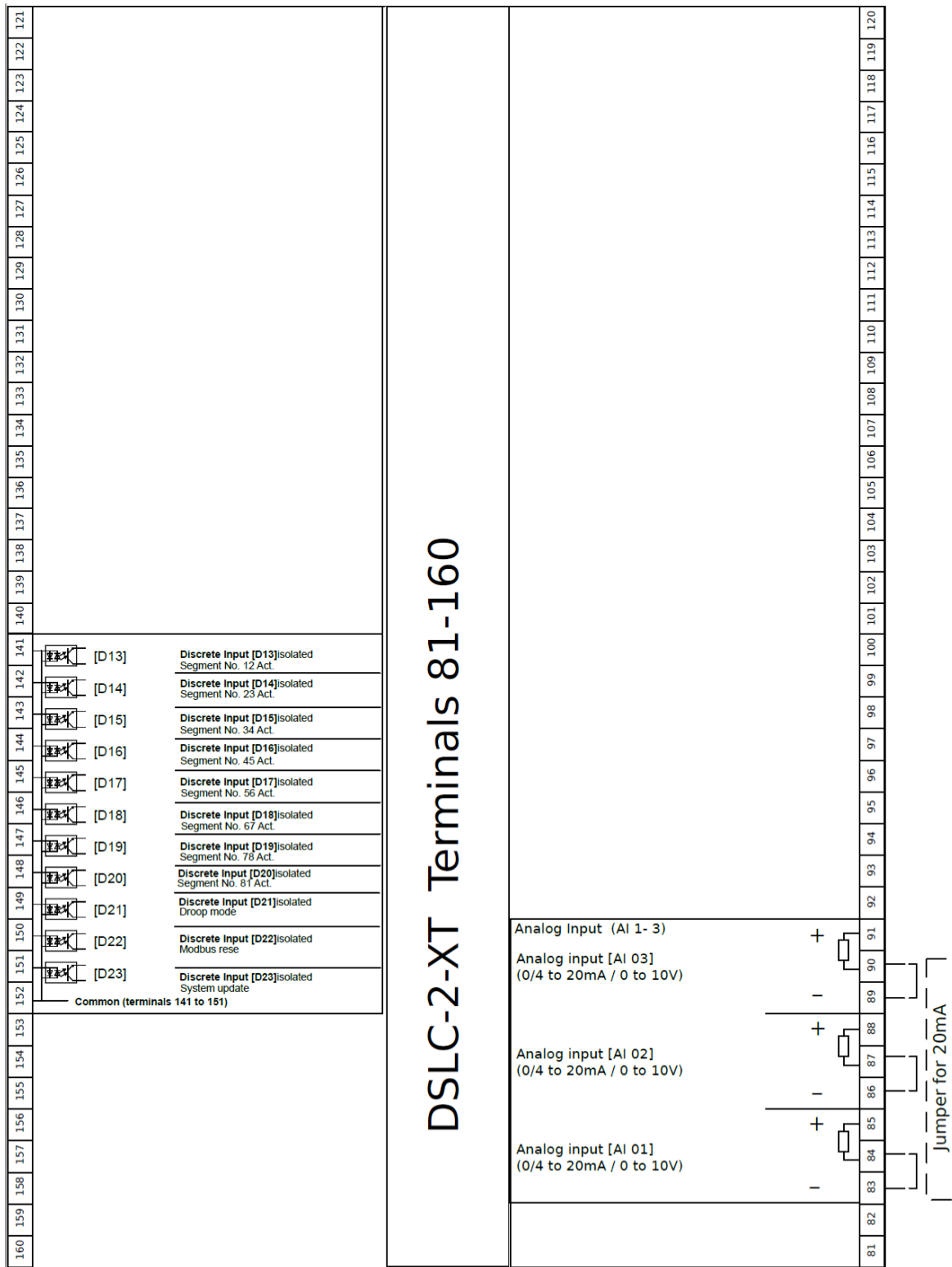
**Others:**

1. The communication 9-pin D-sub connectors are replaced by phoenix plugs with screw terminals
2. The analog outputs 1 & 2 are supported with two terminals now (the shunt for voltage output is internally populated)

### Wiring diagram (DSL-2XT)







Subject to technical modifications

DSLC-2-XT Wiring Diagram PCB 2

**Wiring diagram (MSLC-2XT)**
