user's guide

Quick Data

A family of text readouts for hash environments, designed for industrial use showing messages and simple graphics.

Size: ND7070: 1040x400x100mm; 12kg/15kg for 96 x 32 pixels
        ND7071: 1360x400x100mm; 16kg/19kg for 128 x 32 pixels
        ND7072: 129x560x100mm; 20kg/25kg for 128 x 48 pixels

Materials: Laquered Aluminium

Mounting: Wall bracket

Technology: LED RGB

Power: 100-240Vac/20-350W

Temp range: -30°C to +55°C

Control cards include Serial, Ethernet, Radios, Analog Interface, Temperature, GPS/GNSS etc

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CE

WARNING

Electronic cards are sensitive to electrostatic discharge. Use proper grounding when handling!

norskdisplay

Overview

This well built family of displays are made to present ASCII characters in the ISO/IEC 8859-1 table plus UTF-8 and simple graphics. RGB LEDs are capable of displaying vibrant colors outdoors as well as indoors.

Note that the best reading distance is from 6 meter due to a dot pitch of 10mm.

With the standard Ethernet interface and web server controller installed, it will easily interface with JSON protocols carrying HTTP requests.
A webserver allows flexible use. Simple setup and test is available using your favourite web browser.
Alternative interfaces, protocols and power options are available. Contact factory.

The display will adapt to ambient lighting to increases legibility and life expectancy. Power-reducing functions may be set to further increase usable life.
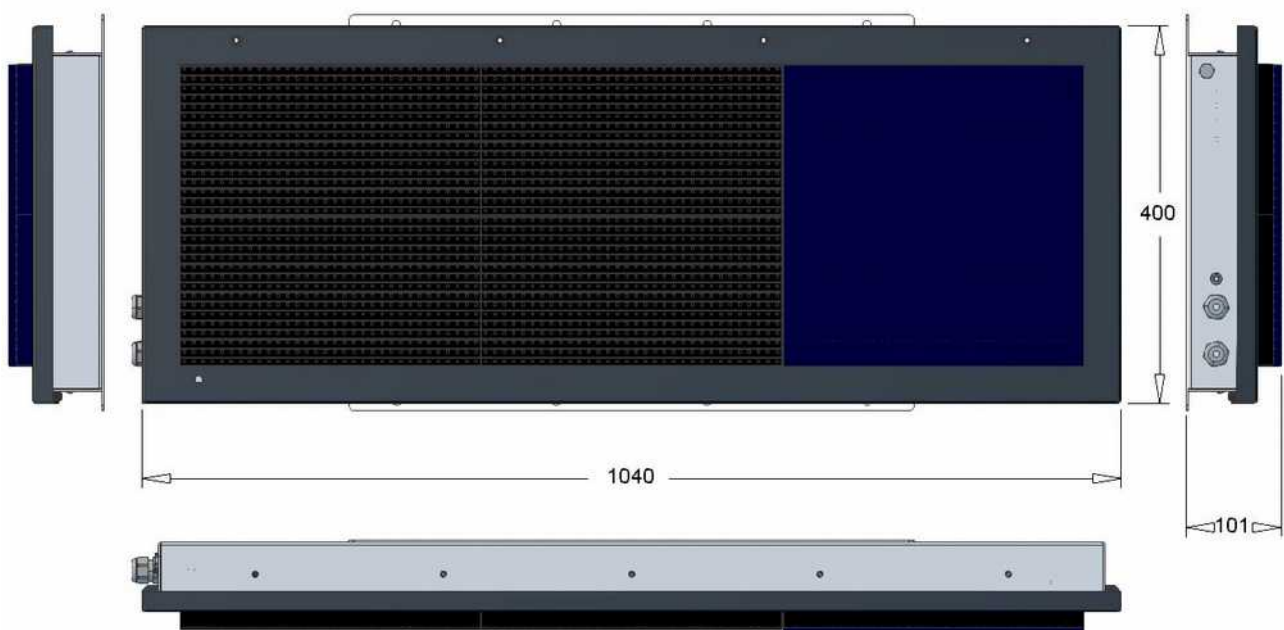
Online documentation is available from https://github.com/norskdisplay/doc

Options and Variants

Common versions are:

ND7070	96 x 32 pixels :	1 line of ca 5 characters / 2 lines of 8 characters
ND7071	128 x 32 pixels :	1 line of ca 7 characters / 2 lines of 12 characters
ND7072	128 x 48 pixels :	1 line of ca 8 characters /../ 4 lines of 12 characters

Custom interfaces or functions are available on request. Contact factory for more information.

Mechanical Drawing

Measures for ND7070 in metric mm

Setup and alternatives

The graphical layout of the sign allows dynamically changeable sign. One line of large characters or 3-4 lines of smaller text is up to you. Predefined setup is loaded at power-up.

Apply power to display and you should see the preset IP address 172.16.1.101

Use a browser to access the web interface: **http://172.16.1.101** or change the IP address by typing **http://172.16.1.101/admin.php** . Note that you may have to change your PC/Mac IP address range to allow it to reach the display (eg set 172.16.1.100)

To help you evaluate the communication and result, use the online and built-in simulator at

https://displaysimulator2.azurewebsites.net/simulator.php

It also contains comm doc and examples.

Text and simple graphics may be displayed in color, white text on black background is default.

COMMUNICATION

Standard communication interface is Ethernet with JSON containing HTTP/HTTPS over TCP. This allows the widespread use of well tested APIs in PLS / PC or instruments. For more information or examples, contact factory.

INSTALLATION

- Tools needed: Torx TX30 and TX20

- The front has a 4 to 6 M6 screws and is hinged at the lower end.

- M6 screws should be tightened in repeated sequence and final torque should be 5-8Nm

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Items NOT INCLUDED in standard package:

ø8mm Screws/bolts to fix the bracket to a wall

Pole mounting : saddle clamps (see picture)

Shade to protect from excessive sun.

Normal display tilting for improved view.
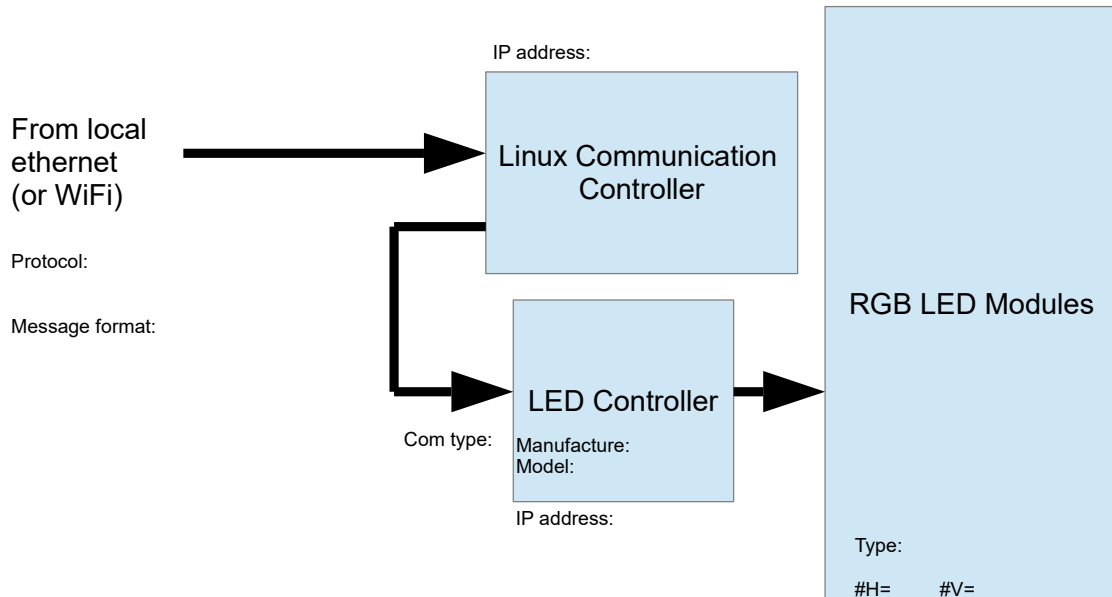This will generally reduce reflection from a bright sky.

ELECTRICAL:

Cable glands are M20 for cable outer diameter = 6 to 12mm
A good selection is a CAT6/CAT5 plus a field terminated RJ45 plug.

Block diagram for ND LED sign

Installation place: Date:

IP address:

From local
ethernet
(or WiFi)   → **Linux Communication Controller**

Protocol:

Message format:

RGB LED Modules

LED Controller

Com type: Manufacture:
                   Model:

IP address:

Type:

#H=   #V=

DATE	ACTIVITY	RESPONSIBLE
	Serial number =	

NOTE: Update or just write a new one for each incident. Minimum info is DATE, SERIAL NUMBER and PROBLEM ADDRESSED.
This sheet must be updated at service time and scanned. Send a copy to the factory for safe keeping. Use this table also to note odd behaviour.

Scan as pdf or jpg file and send to sales@norskdisplay.com

Maintenance

The display is made for many years of service.
Correct installation and maintenance will ensure problem free operation. Note that mechanical stress and use of chemical substances could severely affect life expectancy.
Exposure to direct UV light will wear out laquer and plastic over time.

Keeping the front surface clean will improve legibility. Use a mild detergent and lots of water on a wet cloth to avoid scratching the surface.

The LED modules are fixed to the front using M4 screws. In environments where vibration may occur, check and re-tighten (2 to 3Nm) the screws periodically to ensure tight gaskets.

NOTE:
Chemicals for washdown or desinfection of nutrition lines are known to disintegrate gaskets. Hot salt water is also considered aggressive.

Contact factory for updates and requests!

OPTIONS	GIVE US FEEDBACK	LIFETIME SUPPORT

Interfaces: **Power:**
Ethernet
WiFi   100-240VAC
Sub-1GHz RF   DC/DC
Fieldbus
 	
   Mechanical options:
	We appreciate any feedback – good or bad – as it will help us make better products.
	
	Suggestions or critical remarks are best sent to the support email.
		* **Help during installations**
		
		* Free adaption for interfacing your equipment
		
		  support email:
		sales@norskdisplay.com
		
		  Tel: +47 3288 7000