

## 5101 Graphik Manual

### Operation via Touch Panel with the 4101-Grafik Software Package Laying and Winding System 5101 N-P

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	Page	
<b>I</b>	<b>General information</b>	<b>2</b>
<b>II</b>	<b>Main mask for monitoring and controlling</b>	<b>3</b>
<b>III</b>	<b>Edge control and ancillary values</b>	<b>4</b>
<b>IV</b>	<b>Edge correction without sensors</b>	<b>4</b>
<b>V</b>	<b>Program handling</b>	<b>5</b>
<b>VI</b>	<b>Information on service and system data</b>	<b>9</b>
<b>VII</b>	<b>General information on Profibus coupling</b>	<b>9</b>

**Attention:**

- For laying refer to “Basic device manual”
- For core control refer to “Core control manual”
- System introduction with Profibus connection

## I. General information

This manual deals with the operation of the laying system together with the software module "5101-Graphik".

Refer to the 5101 N manual for an explanation of the laying and winding system 5101 N-P in relation to the scope of functionality.

For connection, commissioning and control information for the electrical, service and design departments refer to the information in the "Profibus connection" manual.

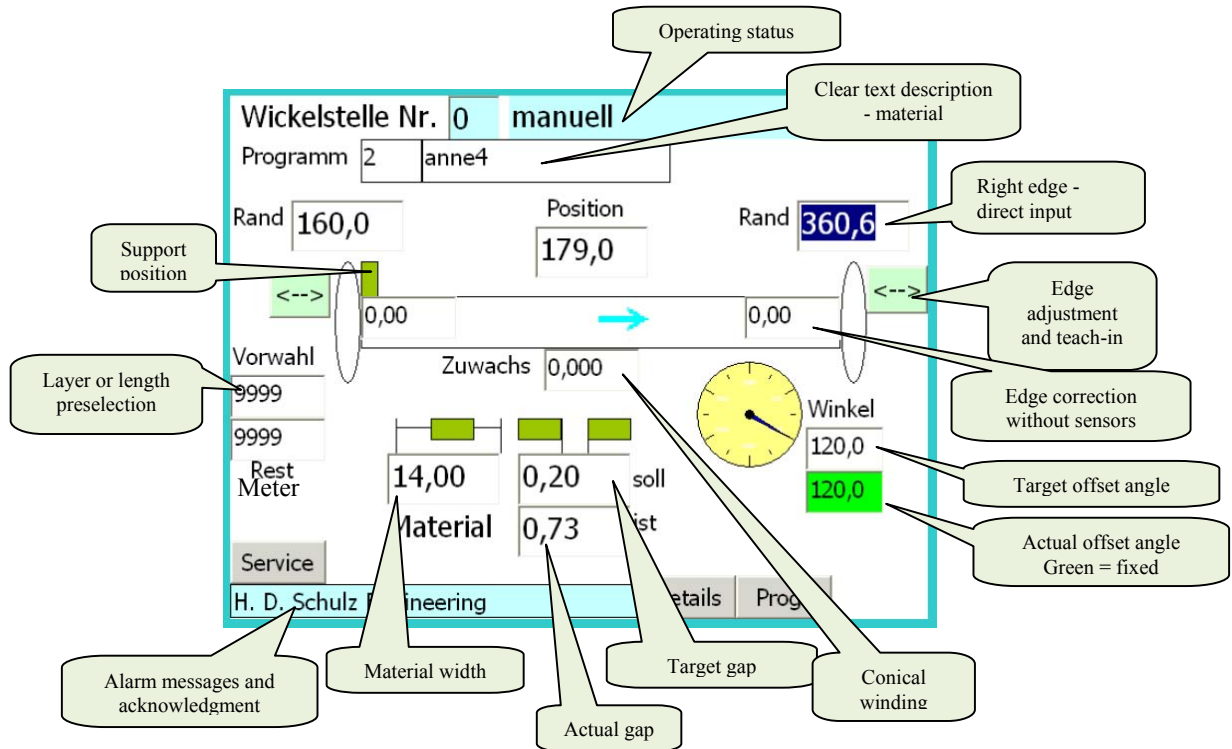
### The software module "5101-Graphik" offers the following operational scope:

- Operation of individual and multiple winding stations
- All functions of the basic device in convenient form
- Standard edge treatment with all functions
- Full scope of edge correction without sensors
- Saving and loading application programs only limited by PLC memory size
  - o Text input for the stored programs
  - o Creation and editing of programs offline
- Saving 10 programs for system data
- Support through comprehensive help text
- Service, commissioning and diagnostic masks (see Profibus manual)

The functions of the core control (core control manual) are not supported on the operator side because, when using a PLC, winding is executed via the master controller.

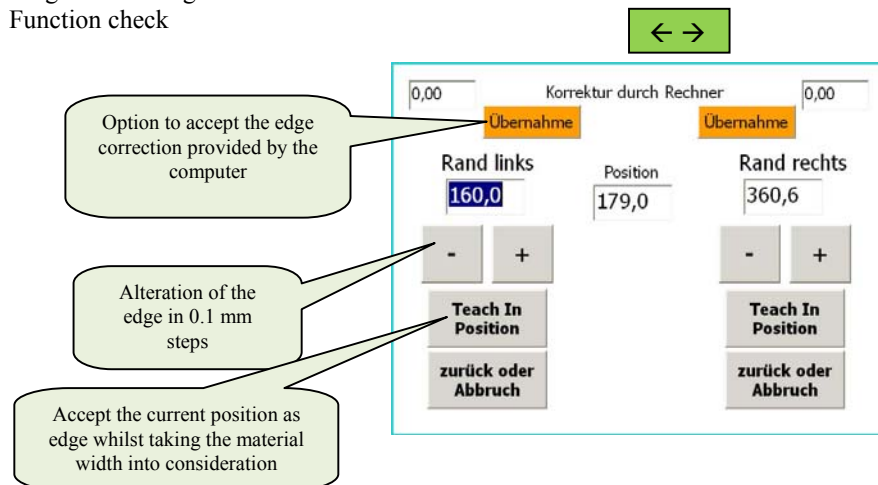
**For first-time user the following applies:  
Detailed induction by our personnel is strongly recommended!**

## II. Main mask for monitoring and controlling



### Peculiarities:

- The values of the sensor-free automatic edge correction are only displayed when enabled in the set-up
- With a green angle field the angle is maintained during a change to the actual gap
  - o Switch off this function by writing over the material width or the gap
- The input  $\diamond > 0$  is shown graphically with an increase (conical winding)
- Depending on the basic data pre-selection the pre-selection is made in either metres or layers and displayed
- Further branches in the mask:
  - o Details Edge treatment, start position etc.
  - o Progr Program handling
  - o Service Function check



## III. Details

### Edge control and ancillary values

The screenshot shows the 'Wickelstelle Nr. 0' manual control interface. Key parameters and callouts include:

- When approaching:** Points to the 'Rand-Beschleunigung' (edge acceleration) parameter, currently set to 10,0 mm.
- When leaving:** Points to the 'Randstop' (edge stop) parameter, currently set to 20,0 mm.
- Acceleration reduction selectable with core growth:** Points to the 'mit Reduzierung' (with reduction) option, which is selected.
- Acceleration decrease per layer:** Points to the 'Randstop' parameter.
- Laying direction after connection:** Points to the 'Anbindeposition' (connection position) parameter, currently set to 12,0 mm.
- After connection:** Points to the 'Lagen ohne Spalt' (layers without gap) parameter, currently set to 0.
- Output for external device:** Points to the 'Zugvorgabe extern' (external tension specification) parameter, currently set to 20,0 mm.
- Auto-Randkorr. (Auto edge corr.):** A button at the bottom right of the interface.
- Zusatzwerte (Additional values):** A button at the bottom right of the interface.
- zurück (Back):** A button at the bottom right of the interface.

#### Peculiarities:

- Tension preset only visible with respective enabling in the set-up
- Auto edge corr. (mask for edge correction without sensors) only visible with respective enabling in the set-up
- The values of the acceleration decrease are only visible if "with reduction" has been selected
- Depending on the basic data pre-selection the pre-selection is made in either metres or layers and displayed
- Further branches in the mask:
  - o Auto edge corr. Edge correction without sensors
  - o Ancillary values Pusher position, etc.
  - o Back Main screen

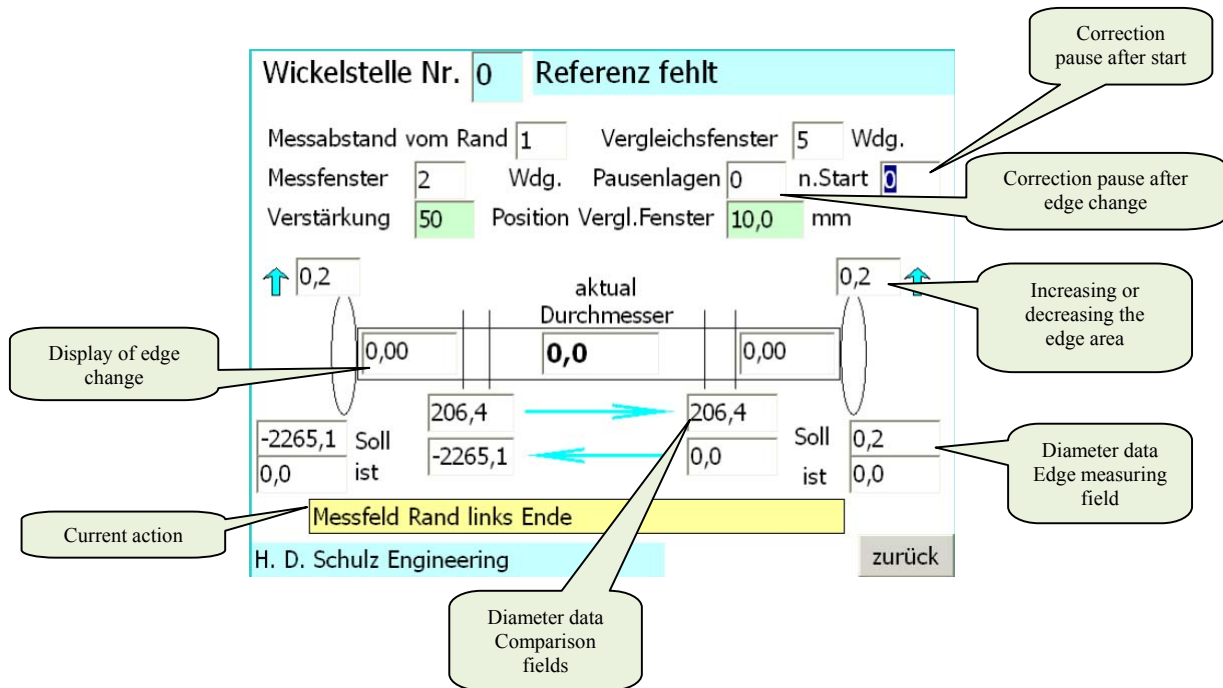
Pusher position = absolute position  
Pre-contact = Offset from the edge  
(only if necessary)

- Edge offset both edges
  - o Shows a mechanical correction of the material feed line.  
Remains with the laying station and is not a component of the program

The screenshot shows the 'Wickelstelle Nr. 1' ancillary values interface. Key parameters and callouts include:

- Actual value:** Points to the 'Position' parameter, which is currently set to 179,0 mm.
- Abschiebeposition (Discharge position):** Currently set to 300,0 mm.
- Vorkontakt (Pre-contact):** Currently set to 50,0 mm.
- Randvesatz beide Ränder (Edge offset both edges):** Currently set to -1,8 mm.
- zurück (Back):** A button at the bottom right of the interface.

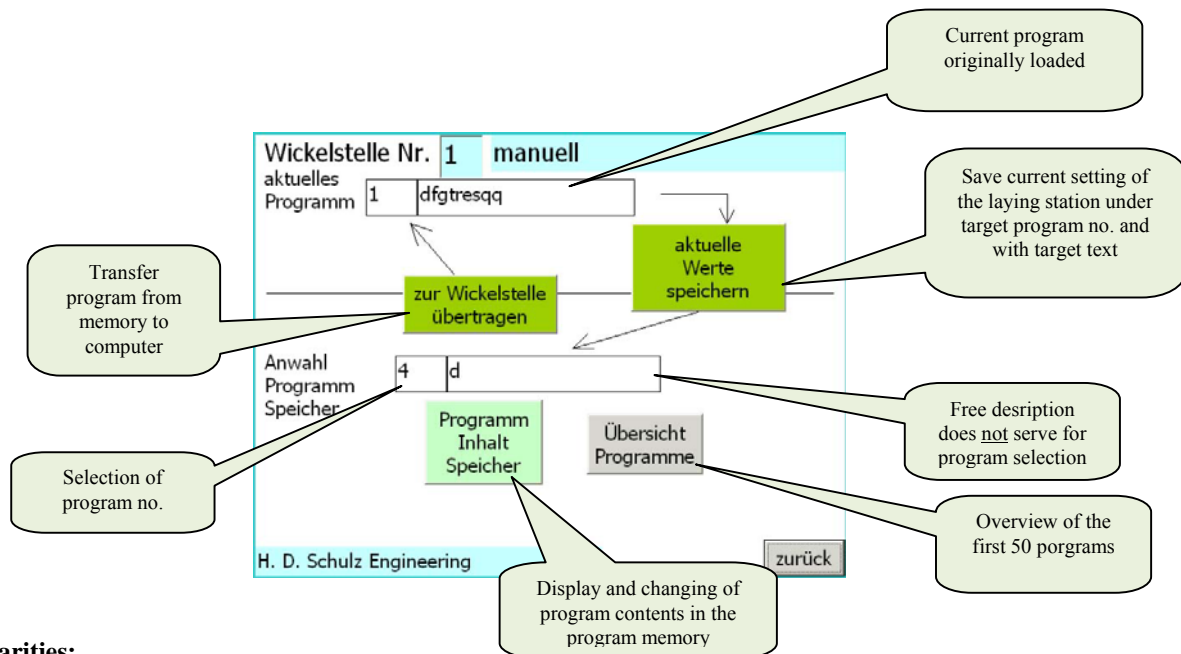
## IV. Edge correction without sensors



### Peculiarities:

- The detailed explanation can be found in the 5101 N manual
- The following values must be entered:
  - o The measuring offset from the edge (number of windings "1")
  - o Comparison window (number of windings "4")
  - o Measuring window (number of windings "2")
  - o Pause layer (correction pause after correction command "0")
  - o n.Start (correction pause after starting a new reel "0")
  - o Amplification (evaluation of correction command "50")
  - o Laying window position (offset from edge of the comparison window "10.0" mm)
  - o ↑ edge change (increasing or decreasing the diameter at the edge against the comparison window "0.0")
- All other display parameters are non-editable and serve for checking purposes only
- In the event of greater correction requirements in the edge area occurring regularly, it is recommended that the basic edge settings be adjusted accordingly.

## V. Program handling



### Peculiarities:

- The name of the original program loaded is displayed under *current program* together with the associated product text. These fields are not changeable.
  - o It is necessary to note that the program parameters can be changed in the laying station and then no longer reflect the original program
- After inputting the program number for the program memory it is possible to change or create the program in the memory, without influencing the laying station. The entered text is stored under the program no. This text entry **cannot** be used for program selection.
  - o Actuating the "Program content memory" button results in the following mask being called up
  - o 50 programs can be displayed in an overview in relation to the text input
- Transferring the selected program to the computer is not possible in the *automatic* operating mode

## Display of selected program in the program memory

**Screen 1 Memory**

Programm Nr.	4	Material	d
Rand <-	60,0	Randzuwachs	0,000
Rand ->	190,0	Randstop	0,0
Anbindeposition	0,0	Richtung	0
Mat.Breite	10,00	Spalt	0,20
Winkel	120,0	Dicke	2,0
Beschl. nähern mm	10,0	Wert	0
Beschl. entfernen mm	0,0	Wert	0
Lagen o. Meter	9999	Lagen Spaltlos	0
Abschiebepos.	300,0	Vorkontakt	50,0
H. D. Schulz Engineering		Auto-Randkorr.	zurück

Layers or metres  
Can be stipulated  
in the set-up

Is stored under  
program no.

Green = angle  
takes priority

Only relevant with  
automatic acceleration  
reduction

mit  
Reduzierung

Automatic edge  
correction

### Peculiarities:

- The mask *automatic edge correction* is only offered with respective enabling in the set-up.
- Values in mm unless otherwise stipulated
- Tension – external is only offered with the respective set-up setting
- Material thickness and diameter “core empty” must be programmed only in conjunction with an automatic acceleration reduction

### Screen 2 Memory

For the meanings of the entries refer  
to **IV. Edge correction without sensors**

Programm Nr.	2	Material	yhm
Anwahl Speicher sensorlose Randkorrektur			
Messabstand vom Rand	1	Vergleichsfenster	5
Messfenster	2	Wdg. Pausenlagen	0
Verstärkung	50	n.Start	0
Position Vergl.Fenster	10,0	mm	
Randanhebung links	0,2	Randanhebung Rechts	0,2
H. D. Schulz Engineering			zurück

## Program overview

Programmed text  
input

### Screen 1 Program overview

P-01	dfgtresqq	P-14	
P-02	b	P-15	
P-03	c	P-16	
P-04	d	P-17	
P-05		P-18	
P-06		P-19	
P-07		P-20	
P-08		P-21	
P-09		P-22	
P-10		P-23	
P-11		P-24	
P-12		P-25	
P-13			

Seite 2    zurück

### Peculiarities:

- This mask serves exclusively as the program overview. It is not possible to change the inputs
- Scrolling to screen 2 shows the text inputs for programs 26-50

## **VI. Information on service and system data**

The meaning of the selectable control images under “Service” can be taken from the “Profibus connection” manual. Selecting the basic data masks is reserved for commissioning personnel only. Unauthorised access to this data can lead to malfunctions!

## **VII. General information on Profibus coupling**

Depending on the system loading of the complete application the data is displayed on the terminal following a small delay. This has no influence on the function of the laying computer.