Concept 2000 bus terminology

The Concept 2000
Concept 2000 consists of modules which are linked to a joint bus. The modules can basically be divided into two types, viz. Link modules and active modules. Link modules typically receives input from the physical surroundings (e.g. touch button panels or remote control) and convert these to a electronic telegram, which is sent to all active modules on the bus. Active modules receive electronic telegrams from the bus, and convert these to the physical surroundings (e.g. by turning on/off or regulate the light).

The electronic telegrams
A telegram always contains 2 elements, viz. Sender and command. The sender consists of link type, link number and channel number. The command can only accept 2 values, viz. start or stop. A start telegram can e.g. look like this:

Example 1:
Sender: Switch-Link no. 1 channel 1
Command: Start

A stop telegram can look similarly as follows:

Example 2:
Sender: Switch-Link no. 1 channel 1
Command: Stop

It generally applies that a Link-module transmits a start telegram, when an input is activated, and a stop telegram, when the input is cleared.

The active modules reaction on telegrams
An event in the physical surroundings (e.g. a activation of a touch button panel) will always result in a telegram being sent on the bus, which is received by all active modules. Active modules will though as starting point not respond to the telegram, unless they have been directly instructed to do so (by means of programming).
If an active module needs to respond to a certain telegram, a function must be programmed into the module. Partly, the function must know which sender to respond to, and partly the function must know which action that is to be carried out if occasion should arise.
A function in a light dimmer can e.g. Look as follows:

Example 3:
Sender: Switch-Link no. 1 channel 1
Action: Light up

If the function above is programmed into a light dimmer , it will start increasing the light intensity when it receives a start telegram with the stated sender. The light dimmer will continue increasing the light intensity until it receives a stop telegram with the stated sender (or reach maximum light intensity).
It should be noted that a single active module can be programmed with up to 40 simultaneous and individual functions.

Actions
The actions can be divided into 2 main groups, viz. continuous actions and instantaneous actions. A continuous action is characterized by starting after receiving a start telegram, and then continuously carries out an action until it is ended with a stop telegram. An example on a continuous action is the action "Light up", which is used in the example. An instantaneous action is however an action which is carried out instantaneously when a start telegram is received.
The action only lasts for a split second, and afterwards ends of itself. So a subsequent stop telegram has no influence. An example on a instantaneously action could be e.g. "On". Only 4 continuous actions are available, these are Block, Help, Light up, and Light down. All the other actions are instantaneously.
The explanation why the actions of the type On (time) and Off (time) are instantaneously is that the action just is to activate a countdown for off with the stated time.

TABLE 1: *The table shows the actions used in connection with the active modules type CP 24 and type CP 31. Notice that the toggle action for CP 31 is a bit special (see product info).*

Category of action	Action	Bus signal	Reaction
Instantaneously	On	Start	On
		Stop	--
	Off	Start	Off
		Stop	--
	Impulse	Start	Toggle
		Stop	--
	On (time)	Start	On + begin countdown for off
		Stop	--
	Off (time)	Start	Begin countdown for off
		Stop	--
	Light xx %	Start	set the wanted level
		Stop	--
Continuously	Blocking	Start	Activate blocking
		Stop	Deactivate blocking
	Help	Start	On
			Stop Off
	Light up	Start	Begin continuous increase of light level
		Stop	Stop at the current level
	Light down	Start	Begin continuous decrease of light level
		Stop	Stop at the current level

The Link-modules
As previously mentioned, the principle rule is that activation of an input on a link module result in transmission of a start telegram, while a stop telegram is transmitted when the input is cleared again. The terminology concerning activation and clearing an input is defined best with a button that can be pressed and released again. On a Switch-Llink an input is activated by pressing a connected button, and the input is cleared by releasing the button. In connection with B&O-link, UHF-link, and IR-link, a button is not directly connected the module, but here the terminology can just be transferred to the buttons on the remote control as principle rule.

Use **of button on remote/panel**	**Signal on CP bus**
Press	Start
Let go	Stop

TABLE 2: *The table shows the function for the three Link-types CP70A, CP70B and CP70C. It is noticeable that CP70B has a few exceptions to the rule (see product information).*

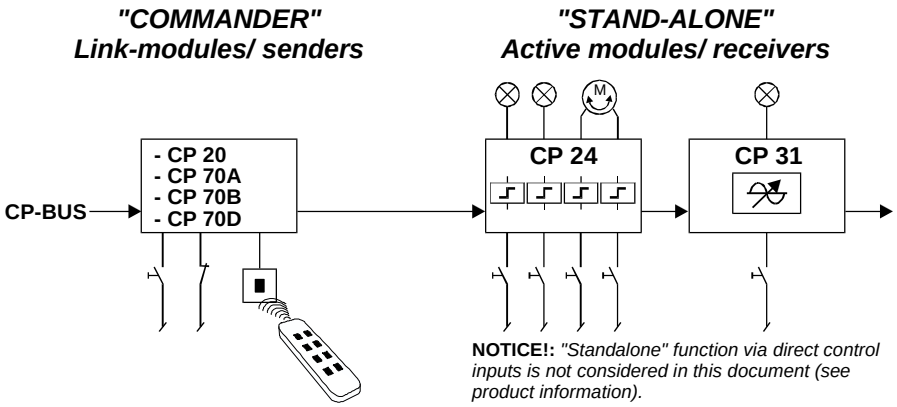
Switch-Link CP 20 differs a little bit from the other modules, as it has some special settings. An input can e.g. be set for "Invert signal". As a result of this the telegram is sent invert, i.e. a stop telegram is sent by activating an input, where as a start telegram is sent when the input is cleared. Another setting is "Grp turn on/off". This setting leads to a transmission of a start telegram and stop telegram respectively every other time the input is activated. No telegram is sent, when the input is cleared. A third option of setting is "Short/long". Here applies that if the input is activated for a period under 300 ms a start telegram is sent, where as an activation for a period on more than 300 ms results in a stop telegram.

TABLE 3

Action on input	Caption	*Setting on Switch-Link CP 20*			CP bus command
		Invert signal	Grp. on/off	Short/long	
	Switch on				START
	Switch off				STOP
	Switch on				STOP
	Switch off				START
	Switch on				Alternately START/STOP
	Switch off				----------
	Short impulse				START
	Long impulse				STOP
	Short impulse				STOP
	Long impulse				START

TABLE 3: *The table shows the most common settings for Switch-Link CP 20 for control of active modules type CP 24 and type CP 31.*

Time-Link type CP 70D differs substantially from these principle rules, and is therefore not considered in this document (see product information for Time-Link).



NOTICE!: *"Standalone" function via direct control inputs is not considered in this document (see product information).*